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ABSTRACT

The basics of academic economics are examined in this faculty guide. The modern management movement has reached American higher education and has created new expectations concerning the faculty's role. An earlier preoccupation with management methods has been replaced by concentration on evaluation. Faculty should share in the preparation of their campus allocation budgets as a whole, not simply their own or departmental concerns. Academic economics are best understood by examining educational costs and pricing, student demand, and the supply and demand of skilled academic personnel. Major income sources must be evaluated: student and service charges, governmental appropriations, philanthropic and donor contributions, and borrowing. Tuition charges, highly sensitive to market prices, are analyzed in some detail. Consideration is also given to understanding budgets and finance reports. Conflicting organizational pressures in academic institutions must be resolved differently than those arising in organizations based on industrial and hierarchical models. It is concluded that with or without collective bargaining, the faculty's best hope in helping determine its future lies in the principle of shared authority. (LBH)

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A Change Publication

Colleges and Money

A Faculty Guide to Academic Economics

ED125503

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By the Change Panel on Academic Economics

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The Change Policy Papers

1. Faculty Development in a Time of Retrenchment
2. **Colleges and Money**
3. The Testing and Grading of Students

Preface

WHEN *CHANGE* PUBLISHED ITS FIRST POLICY PAPER, *Faculty Development in a Time of Retrenchment*, few could have anticipated its considerable impact on American faculty. It has become the best-selling volume on the topic in higher education.

What has emerged in the meantime, and with chilling urgency, is the need for faculty to understand more fully the fiscal circumstances of their institutions. Folklore abounds on these issues, much of it simply false and misleading. Fiscal responsibility goes hand in hand with fiscal comprehension, whether it concerns one's own household or the fortunes of the institutions on which one's livelihood depends.

To deal with what have become exceedingly complex issues, *Change* assembled a national panel of financial and management experts. This new policy paper is the product of their prodigious efforts. Their work was made possible by a special grant from the Carnegie Corporation. As with the first policy paper on professional development, the Hazen Foundation has defrayed publication costs. The generosity of both foundations is hereby gratefully acknowledged.

Debates over what constitutes fiscal exigency and fiscal responsibility reverberate with special ferocity through academia. Behind the contentiousness lies the simple fact that, for most faculty at least, there is now no other place to go. Faculty thus have a special stake in institutional survival. Only a mature understanding of these circumstances—not persecution complexes, real or imagined—can help resolve the current battles over perceptions, priorities, and purse strings.

George W. Bonham
March 1976

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Colleges and Money: A Faculty Guide to Academic Economics

1

The Faculty's Role in Academic Economics

For academic professionals, the debate over money is [illegible] as central as those over study content and student life. But the quality of that debate will largely depend on the willingness and capacity of faculty to understand the basics of academic economics. Here is an overview of the scope and purpose of this policy paper on economics. Page 9.

2

First Principles of Budgeting and Management

The modern management movement has finally reached American higher education, and is becoming increasingly pervasive. It has created new expectations concerning the faculty's role, which they must understand if they are to respond with insight and intelligence. An earlier preoccupation with management methods has now been replaced by concentration on evaluation. Faculty should share in the preparation of their campus allocation budgets. Page 15.

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Facts and Fictions About Educational Efficiency

What constitutes educational efficiency, and what are major impediments to achieving it? Even small increments of greater educational efficiency may have significant budgetary benefits. Within the larger political framework of academic institutions, faculty should, as much as possible, be involved in the budgetary process of the whole institution, rather than with simply their own or departmental concerns. Page 25.

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Some Definitions of Educational Costs

Academic economics are best understood by looking at educational costs and pricing, student demand, and the supply and demand of skilled academic personnel. To understand these components is to understand the complex web of economic factors that help determine institutional health. One can then more readily discover: Who pays for what? How are costs determined? And what is affordable? Page 37.

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Who Pays for Education?

Colleges and universities generally rely on four major income sources: student and service charges, governmental appropriations, philanthropic and donor contributions, and borrowing. The relative importance of each has shifted significantly in recent years, and few of these funding mechanisms are easily manipulable by an individual institution. Tuition charges are now highly sensitive to market forces, and they are here analyzed in some detail. All sources of support need to be better understood by thoughtful faculty. Page 49.

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Understanding Budgets

The institutional budget and finance reports are a college's key operating documents; thus a basic understanding of them is essential for faculty. Not all budget information is equally important, and no institution handles its budget reports precisely as another. Nonetheless, some standardization is now emerging, and common cost and income denominators can be identified. Deciding what questions to ask is critical. These questions, and their answers, provide a broad outline for the financial life of an academic institution. Page 57.

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Who Makes What Decisions?

Conflicting organizational pressures in academic institutions must be resolved differently than those that arise in organizations based on industrial and hierarchical models. Nor is the industrial union model adequate for academic institutions. With or without collective bargaining, the faculty's best hope in helping determine its future lies in the principle of shared authority. Page 81.

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For Further Reading

For those wishing to delve more deeply into the subject of academic economics and managerial concepts, these readings have been selected for clarity and usefulness. Page 89.

1

The Faculty's Role in Academic Economics

For academic professionals, the debate over money is now as central as those over study content and student life. But the quality of that debate will largely depend on the willingness and capacity of faculty to understand the basics of academic economics. Here is an overview of the scope and purpose of this policy paper on economics.

TRADITIONS DIE HARD, ESPECIALLY IN THE ACADEMIC world. Stereotypically, in the "better" academic institutions administrators were perceived to tend the "nonintellectual" end of things—irreverently called "housekeeping"—while the faculty dealt with matters of "larger purpose": the curriculum and general intellectual matters.

One may, of course, justifiably question whether that functional dichotomy ever existed in so pure a sense. If ever it did, it has in any case been replaced in the seventies by the cold realities of institutional sustenance and survival: There remains not a single academic institution in this country where the debates over money are not at least as central as those over study content and student life. Surprisingly, it has only been relatively recently that academics have recognized that these debates over budgets and allocations are also debates over campus power and institutional goals. And more often than not, administrators have had the upper hand. They understood the intricacies of the management and budget process while faculty did not (nor, in the main, did they wish to). It was only when the total pie began to shrink, cutting into jobs, tenure decisions, and departmental autonomy, that faculty comprehension of complex budgetary issues became utterly important and crucial.

For *Change*'s Panel on Academic Economics, the essential issue was not who should hold what power. To the Panel, the general ignorance among American faculty of the economic profiles of their

institutions remained an unquestioned fact of life. Its prime concern, therefore, was to help banish that ignorance through a clear explanation of the budgetary process. No matter how tedious the subject may appear to some, it clearly ranks as a matter of first importance. Faculty can no longer afford to speak to budgetary issues out of emotion rather than informed knowledge. To continue to do so will weaken whatever persuasive force they may wish to muster, and seriously detract from the desirable principle of shared campus authority.

The Panel has divided its observations and recommendations into seven general headings, arranged sequentially. The chapter on first principles, Chapter 2, suggests some governing perspectives. Informal university governance by faculty has been largely supplanted by the supremacy of management at a time of dwindling resources. But management systems do not determine the course of a university; goals and planning do. Planning the budget (that is, allocating institutional resources) is likely to be the most important process in managed institutions. Faculty must thus understand and participate in the process if they are to advance their purposes. Management methods are more helpful in implementing policies than in allocating resources; faculty should realize that this fact is also their opportunity. Now that university management methods are subject to critical evaluation, the supremacy of academic purposes over management can best be reasserted by intelligent faculty participation in that management, especially but not exclusively in the allocation process. As noted in Chapter 3, faculty often seek narrow self-interest but also exist as a whole, and administrators should seek faculty participation that encourages an all-institutional point of view.

Educational efficiency, the subject of Chapter 3, must be faced analytically. Questions are being asked, in the present environment of scarce resources, about whether the outcomes of higher education are worth the costs. Alternative uses of resources are considered; forms are evaluated in terms of alternatives. Efficiency is effectiveness in accomplishing a stated purpose or outcome. Despite faculty resistance to this approach, it now has a place in higher education. Since educational outcomes are evaluated in terms of quality as well as quantity, the concept of educational efficiency, far from excluding questions of quality, to the contrary places them in a rational context. Impediments to educational efficiency include institutional rigidity, politics, the cost and risk of changes that fail, the difficulty of evaluating new teaching and learning programs, and the scarcity of resources. Despite such impediments, a university and college must either improve or ossify. In many institutions it is possible to reduce costs while improving outcomes.

Average cost per student rises by some 3 percent a year; a steady, gradual program of cost reduction can cut this rate to 2 percent a year. Similarly, an increase of 1 percent a year might be set as a goal for improvement in outcomes per student. Combined, such progress would be a substantial increase in efficiency, a major breakthrough. (Mere meat-axe changes, obviously, are likely to prove counterproductive.) Efficiency also requires a balance between faculty instructional and research time, and the budget should provide reliable estimates of the true cost of each. Yet another efficiency issue concerns how many fields, and courses within them, should be offered and which areas emphasized. The

dropping of programs is often deterred by political opposition not related to efficiency. The proliferation of courses is extensive, expensive, and often wasteful.

Variations in teaching forms have manifold implications for educational efficiency; changes in the form of instruction can be correlated with wide variations in cost per student and produce quite variant incomes. When scarce resources require reducing the size of the faculty, gradual attenuation is a better method than sudden cuts, but universities should not keep on deadwood anymore than, say, railroads should (though their record here, of course, is quite as bad).

There is an academic economy that can be understood on its own terms of costs, prices, student demand, and the demand for qualified employees; this is the subject of Chapter 4. Costs of a *decision* include future as well as present-year costs. A professor hired at $22,000 costs $330,000 in 15 years. (One must consider that a dollar now is more than a dollar in the future.) Many institutions, however, compute the cost of annual activity, not of decisions, and deal with annual expenditures, not long-range implications.

Determining the cost of an activity is in itself complex, involving direct and indirect costs, allocation of a cost among its outcomes, the aggregation of costs by kinds of activity, and, for instructional costs, the computation of unit costs. While the cost of a decision is established outside the institution, the cost of an activity is primarily a judgment susceptible to wide variations and subject to negotiation. Costs do not rise or fall in proportion to workload; they change when decisions, not workloads, change. Unit costs are not a reliable measure of efficiency because present costing techniques are insufficient to match the complexities of the efficiency question.

Costs tend to become prices automatically paid, even though cost-determined prices do not reflect the chosen priorities and objectives of an institution. Budgeting formulas do tell the priorities in force—a high valuation on graduate enrollments, for example.

The net price charged students can vary with each individual. Tuition is usually decided by the institution or the state, but the federal government provides about 90 percent of the student aid, so colleges and universities do not establish their own net prices to be charged individuals. As enrollments shrink, so expands interinstitutional competition for students. But the costs of recruiting can be counterproductively high. The net price charged a student is only one of a number of factors affecting his or her decision to go to college—and which one to go to.

Where does the money for higher education come from? This is taken up in Chapter 5. Apart from borrowing, the three principal sources of income are charges to students and other users, governmental appropriations, and philanthropic contributions. Because of the services purchased by clients, government requirements, and the stipulations of donors, only a part of institutional income can be spent as general income. Charges for services provide about two fifths of total institutional income, government slightly more than half, and philanthropic contributions only one twentieth.

While it is agreed that auxiliary enterprises at colleges and universities should be self-supporting, the tuition issue remains controversial. At present, students provide one third of all institutional income. Some want this portion increased; others propose scaling tu-

ition upward as a student advances. Much of the pressure for higher tuition grows from the fact that large numbers of students from families with incomes above the median level attend public colleges and universities.

In the last quarter of a century, philanthropic giving has declined, as a proportion of total institutional income, from 8 percent to 5 percent. Students and faculty, along with administrators, should become involved in this phase of sustaining higher education.

Higher education has become substantially dependent on federal funding, acutely so in research activities. Critical questions asked by officeholders and others must be answered responsibly, and faculty and students must have concern for the attitudes of political authorities (unless the benefits of governmental support are to be foregone, throwing more of the costs upon students and philanthropy and creating intense budgetary pressures).

Chapter 6 is devoted to helping faculty better understand the financial reports with which they are destined to become more and more involved. Because of the complexity, variety, variability, and inexactitude of the financial documents of higher education, advice

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There remains not a single academic institution in this country where the debates over money are not at least as central as those over study content and student life. Surprisingly, it has only been relatively recently that academics have recognized that these debates over budgets and allocations are also debates over campus power and institutional goals. And more often than not, administrators have had the upper hand. They understood the intricacies of the management and budget process while faculty did not (nor, in the main, did they wish to). It was only when the total pie began to shrink, cutting into jobs, tenure decisions, and departmental autonomy, that faculty comprehension of complex budgetary issues became utterly important and crucial.

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to faculty on mastering them has to be general and is likely to be inapplicable to specific cases. In a money pinch faculty ask many money questions. These are reviewed in a progression designed to show the faculty's ultimate reluctance to justify its own arrangements. They usually turn to donors, the government, institutional reserve funds, tuition, and auxiliary charges (while blaming the cost of central administration) before answering their own patterns of costs.

Deciding what questions to ask is critical; faculty should ask only for important information to avoid causing wasteful investigations and computations to be made. For answers, the basic document is the financial report. Significant efforts have been made of late to standardize college and university financial reports, especially by such groups as the National Association of College and University Business Officers and the American Institute of Certified Public Ac-

countants. A few of such prototypical reports are displayed in Chapter 6 as a basis for discussion of how to read such materials. Special attention is given to the analytical usefulness of the report's statement of changes in funds. Caution is advised in drawing conclusions from the variety of supplementary displays that an institution might prepare. There are also discussions of the accuracy of budgets, the appropriateness of various sorts of budgets for various sorts of institutions, and the necessity of considering a series of annual budgets together to perceive trends.

An implicit concern throughout all these chapters is the access of faculty to a say in the budget-making process. In Chapter 7 it is noted that the university has traditionally been run from the top by the administration and trustees, sometimes by arbitrary fiat; that the traditional model has come under siege from the industrial union model in which the faculty and the administration are adversaries; and that a "shared authority model" may be the best solution. Union-type faculty activity achieves some negotiating and economic benefits, but, the Panel argues, faculty economic gains may well reduce the total number of teaching jobs. Employee-employer role playing may also fail to secure for the faculty meaningful influence in the long-run wrangling over fundamental directions. In the shared authority model the faculty participate fully in the budgetary allocations of the university's scarce resources. The purposes and standards of this model proposed by the American Association of University Professors are reviewed. Collective bargaining may, it is conceded, be the best strategy against irretrievably hierarchical institutions, but the central premise of the shared authority model is the acceptance of faculty as coequal partners within a democratic structure.

The theme and plea of this policy paper, then, is that faculty in self-interest must, and for academic values should, enter fully and seriously into the budget-making processes of their academic institutions.

2

First Principles of Budgeting and Management

The modern management movement has finally reached American higher education, and is becoming increasingly pervasive. It has created new expectations concerning the faculty's role, which they must understand if they are to respond with insight and intelligence. An earlier preoccupation with management methods has now been replaced by concentration on evaluation. Faculty should share in the preparation of their campus allocation budgets if they wish to share in pivotal decisions.

AMERICAN HIGHER EDUCATION, LIKE AMERICAN BUSINESS, developed its main organizational forms and completed a substantial part of its growth using folk methods of administration, concepts fashioned by experience and learned on the job or through the grapevine. This was not by choice, but because "scientific" systems management came late in the history of both corporation and college. Once arrived, however, these "modern" management methods had enormous appeal. They were adopted by an eager market and their influence grew rapidly.

For American business, the movement to make management scientific began at the turn of the century, stimulated in part by the writings of Frederick Winslow Taylor. Before 1900 there were virtually no textbooks on management or accounting. But within 10 years, 240 volumes were published on business management alone, according to historian Richard Hofstadter. In a short time, management methods were modernized.

While muckrakers sharpened their attacks on the old aims of business, the new methods of business steadily gained prestige. The approving phrase "businesslike" was solidly in the popular vocabulary by the 1920s—a time, Frederick Lewis Allen observed, when one could pay his clergyman high praise by telling him he had delivered his sermon in a businesslike manner. The influence of the management movement continued to grow and by World War II, government—especially the Department of Defense—had become one of its most visible converts.

In the last few years, higher education joined the list. Today, as

trustee or alumnus pays the president high praise by referring to new signs that the college is being run in a businesslike manner, faculty members have good cause to be motivated to understand these new signs. They point to new requirements of an effective faculty role. A good place to start that understanding is with the old signs, which first appeared almost 10 years ago but were largely ignored.

Although the systems studies that became the basis for the higher education management movement were begun in the mid-1950s, the movement itself first became visible in the late 1960s through the technical reports and small conferences of specialists working on the management systems. The principal forums for discussion were the meetings in Boulder, Colorado, of advisory committees of the Western Interstate Commission for Higher Education (WICHE)[1] and later its National Center for Higher Education Management Systems (NCHEMS), whose few faculty members were appointed precisely because of their specialized skills. Fresh from Boulder, these specialists brought back to their campuses the latest word on the new developments in a growing list of technical projects designed to improve management of the campus.

A few campus administrators and systems specialists followed

The majority of faculty members, whether or not they were aware of new management methods, probably gave the matter little, if any, sustained thought. Not that faculty members are strangers to management tasks. In the past decade much faculty time has been spent recruiting, drafting growth plans, advising on building plans, and planning academic offerings—activities that can properly be called managing growth. But academic management tasks aside, faculty members have never had much difficulty restraining their enthusiasm for the problems of general institutional management or controlling costs.

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these developments early on, as did a few faculty members. But there was little reason for informed faculty members to be highly impressed with what they saw. Despite growing discussion about them, management systems did not seem to affect the academic life of institutions. A survey of institutional practices made for the Carnegie Commission showed that by 1971 only a small number of institutions had adopted all three of the elements considered necessary for effective institutional management by the director of the survey: (1) institutional research, (2) a planning-programming-budgeting system (PPBS), and (3) a computerized management information system.[2] Reports that budgets were now to be prepared in new formats

1. Founded in 1953, the Western Interstate Commission for Higher Education published a short history of its activities, including an account of its entry into management, in its 1973 annual report, available from the commission in Boulder, Colorado.

2. See Lawrence Bogard, "Management in Institutions of Higher Education," in *Papers on Efficiency in the Management of Higher Education* (Berkeley, Calif.: Carnegie Commission on Higher Education, 1972). Not everyone would agree with his list.

as program budgets, and that information systems were being improved, stimulated little informed faculty interest, because these measures appeared to be either an exercise in communication between technical people or a promise about future efficiency—neither of which attracts much attention in any organization, academic or otherwise.

The majority of faculty members, whether or not they were aware of new management methods, probably gave the matter little, if any, sustained thought. Not that faculty members are strangers to management tasks. In the past decade much faculty time has been spent recruiting, drafting growth plans, advising on building plans, and planning academic offerings—activities that can properly be called managing growth. But academic management tasks aside, faculty members have never had much difficulty restraining their enthusiasm for the problems of general institutional management or controlling costs. These were not functions importantly associated with the performance of the faculty role. For most faculty members, institutional management had other associations. It meant either an institutional career (a distant second choice), or a hierarchical organization (which one enters academic life to avoid), and in any case, a field that offered something less than a compelling intellectual interest. So there was little reason to expect faculty appreciation for new management concepts such as "data elements," the "induced course load matrix," and "resource requirement prediction models." They escaped the notice of most faculty members during those days of student protest and campus upheaval.

Compared to business or government organizations, colleges and universities have been consistently undermanaged. By any relevant measure, they have had fewer administrators than other comparable organizations. The reason for this is well known: The campus got along with few administrators because it relied on the faculty to perform various management duties. Faculty members complained. They downgraded the importance of the function and joked about the high cost of their low-level managerial work (such as minor staff work, or keeping files). Yet, faculty members performed their duties because they played a key organizational role.

If there were sufficient reasons for faculty members to be unimpressed by, or unaware of, the management movement in the late 1960s, those reasons were all but gone five years later. By 1973 it took dedicated indifference for a faculty member not to be aware of managerial concepts and their growing importance for higher education. The intervening years had produced six important developments that heightened consciousness about the management movement:

(1) With a swiftness not unlike the flood of management books

that appeared at the turn of the century, an education management field has emerged in the last few years. A count in 1974 showed prodigious output of at least 15 organizations working on management systems for higher education. Each produces a variety of products. The number is no doubt larger today. These products fall into four major areas: data-base management systems; basic operational systems; planning and resource allocational tools; and communication-base tools.[3] Although these are the basic areas of application of management systems work, a full list of the specialized tools and products used in these areas would run into the hundreds.

The organizations currently active have no Frederick Winslow Taylor, but they do have able specialists working toward his goal, namely, making management more efficient and more effective. That goal, seen in retrospect, may seem to lack drama, but it has inspired prodigious effort on its behalf, and an ever growing higher education market for the products designed to reach it.

(2) The "new depression" in higher education was creating that market by changing in a fundamental way institutional policy toward making ends meet. Instead of relying entirely on increasing income, institutions now also sought to cut expenditure growth by reducing programs and increasing productivity. This new policy increased the demand for use of those management methods which just a few years earlier were the study projects of the groups working with NCHEMS at Boulder. These include a Data Element Dictionary (to obtain uniform definitions for a data base); a Facilities Inventory Classification Manual and a Higher Education Facilities Planning and Management Manual; an Induced Course Load Matrix (to determine, by discipline and level, hours and courses taken by students in each major program); a Resource Requirement Prediction Model (to simulate the institution as a means of improving resource allocation); and Cost-Finding Principles (to develop more sophisticated figures on direct and indirect costs). But the main point is clear: The new management products are coming into increasing use in higher education. When campus administrators compare experiences, they all report expanded management effort. The view that "everyone is doing it" stimulates pressure on each campus to evaluate the adequacy of its own efforts, and to extend them.

(3) By 1973, a Carnegie Commission Survey[4] revealed that the new policy toward making ends meet was working. The rate of expenditure growth in higher education was being substantially reduced. As a result, the tasks of institutional management began to bear increasingly on the academic function. The Carnegie survey gave more credit to the older, folk methods of administration than to the new management methods. Yet the effect of the management movement was clearly to create a greater cost-consciousness, and it has produced demonstrable results for the balance sheet as well.

(4) On large campuses and small, new methods began to replace previous approaches to budget preparation and review. The new budget methods called for new participants in the process—the faculty. Their recommendations were to be drawn from data provided

3. See *Planning and Management Practices in Higher Education: Promise or Dilemma?* Education Commission of the States, Report No. 26 (Denver, Colo.: Education Commission of the States, May 1972). The volume is a good reference and bibliographic source on this subject.

4. Earl F. Cheit, *The New Depression in Higher Education—Two Years Later* (Berkeley, Calif.: Carnegie Commission on Higher Education, 1973).

by a new information system, which would also aid them in their other new duties of program review and long-range planning.

(5) The state government role in higher education is expanding. The states have begun to restructure public higher education into larger systems, to require that systems produce more information, more coordination, and to assert a larger role in planning and even governing. Management systems and tools, such as the program classification structure, originally developed for institutional use, were now being adopted by the states for their own purposes. Although the private institutions are still largely excluded from state requirements for accountability, they too are becoming part of the overall planning procedure. Under the newly revived section 1202 committees, private institutions will be officially part of state planning mechanisms.

(6) Finally, given all these developments—the growth in the number of the available products, their increased application, the need for expenditure reduction, the larger role of the state—the sixth development became all the more important: sharp warnings about the unintended consequences for higher education of managerialism. By June 1973, the two leading education publications had published such warnings, one by American Council on Education Vice President Stephen Bailey, "The Efficiency Cultists" (*Change*, June 1973), the other by Ohio State University President Harold L. Enarson, who warned of the dangers in higher education's "managerial revolution" (*Chronicle of Higher Education*, June 18, 1974).

The warnings about the management movement bring one main message about heightened management consciousness: It must be more than cost-consciousness alone. The methods of the new management movement, whether used at the state level or on campus, are tools but they are not neutral, that is, independent of their setting. They are meaningful only in the context of their environment. On campus or off, the old methods of governing are being challenged. The power of the formal structure is increasing. It need not follow that academic values of the old (informal) environment are threatened. But style is the key to good management, and the warnings of Bailey, Enarson, and others show there is reason to fear that unless the new methods are generally understood, the environment will produce a style and a use that is not particularly academic. This means that the management movement (and the factors that created it) has also created new requirements for performing the faculty role. Maintaining quality and shaping the direction of colleges and universities now require more than competence in a subject-matter specialty. They require an understanding of the facts stressed in other sections of this volume as well, and of their main implication, that higher education is being redefined, not by an educational master plan or design, but as a result of the growing struggle for scarce resources. The organizational impact of the management movement and its technical demands are enlarging the requirements of the traditional faculty role in shaping institutional policies. Academic management tasks can no longer be neatly isolated from institutional management. The two are increasingly interrelated.

Compared to business or government organizations, colleges and universities have been consistently undermanaged. By any relevant measure, they have had fewer administrators than other compar-

able organizations. The reason for this is well known: The campus got along with few administrators because it relied on the faculty to perform various management duties. Faculty members complained. They downgraded the importance of the function and joked about the high cost of their low-level managerial work (such as minor staff work, or keeping files). Yet, faculty members performed their duties because they played a key organizational role. They enabled the campus to function without much reference to the power as defined by its formal hierarchy. It was the informal organization that ran things by influence. The form could best be described as a loose collection of professionals. The organizational result could not be called very neat. Lines were blurred and the focus of decision was not always clear.

It was a situation that inspired a good deal of writing about governance. But two overriding qualities made it very attractive. First, decisions were made, or could be easily influenced, by the faculty. Second, the system worked. This arrangement was in use by many, probably most, institutions during the decade of remarkable growth (1958-68). Faculty members performed the recruitment, planning, and various entrepreneurial functions that went with growth. Off

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We now know that the new management practices began to convert colleges and universities from loose organizations of professionals into managed institutions. An immediate practical result is that the faculty must participate early in a structured decision process, or not have much influence on it. The most important task is likely to be the budget process. If faculty members had little appetite for general management, they will have even less for the growing prospect of being managed. In this situation, it is easy to become embattled, or feel isolated, not an ideal situation for budget making.

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campus there were few complaints about this form of organization and decision making, for it produced many of the academic programs and features most admired. In his widely read book on trusteeship, Beardsley Ruml wrote with approval that in the college, the line of command was a tenuous line of influence.

This organizational arrangement first came under challenge from the student uprising of the sixties. Next came financial pressures, the demands for accountability, and declining enrollment growth. These challenges revealed that the organizational form of a loose collection of professionals is ill-equipped to run an organization when its basic assumptions are not shared and when there is little or no growth.

Under the old system, faculty members initiated changes and administrators did what was necessary to accommodate them. Faculty members did not participate in the budget process, for there was little reason to. There is ample reason to believe that most campuses operated under a similar situation during that halcyon period.

Now that growth is declining, the budget process is far more important. The management task—gathering and analyzing information that will inform the difficult decisions that must be made—must come first; for without growth, change must come by substitution or contraction. Because these decisions are increasingly interdependent, to be credible they must have an organized, systematic basis. The management techniques used require that decision points be focused and powers defined; the preferred criteria for judgment under this type of planned change are those that can be measured and institutionalized. A good description of this process at work in five institutions is provided by the Academy for Educational Development booklet *Resource Allocation in Research Universities*.

The old form of easy access to influence is going fast. Now one must participate in new, structured processes, or simply do one's duty by its computer printouts. The necessary rush to tool up with management methods for dealing with financial trouble has produced large administrative budgets and new staff positions. These are probably somewhat smaller than characterized by Dr. Ronald Berman, head of the National Endowment for the Humanities, who said that in some institutions, annual administrative budgets had become large enough "to run Costa Rica or Honduras for half a decade." But relatively little attention was paid to the organizational impact of the new methods and new staffs. We now know that the new management practices began to convert colleges and universities from loose organizations of professionals into managed institutions. The main organizational consequence of the management movement has been a redefinition of management authority, and a new, more formally defined structure of management. An immediate practical result is that the faculty must participate early in a structured decision process, or not have much influence on it. The most important task is likely to be the budget process, for it is now becoming the principal management device for allocating resources. If faculty members had little appetite for general management, they will have even less for the growing prospect of being managed. In this situation, it is easy to become embattled, or feel isolated, not an ideal situation for budget making.

An obvious precondition for an effective faculty role in the budget process, therefore, is atmospheric. As the moving party, the administration must work to create the conditions conducive to participation. This is largely outside of faculty control, but not entirely. Faculty members can make several contributions to this process. The first is to recognize that there is a financial problem in higher education and to determine what its effects are in one's own institution. For reasons already noted, faculty members have not in the past troubled themselves with the details of the financial condition of their own institution. Now they should, and they must.

Planning and budget making are also more important than they have ever been in the past. In recent periods of growth, planning was often an exercise in self-congratulation. No one took it too seriously, for mistakes could always be eliminated through growth. Now the planning and budget process are real and should be recognized as such. Part of this reality is that the resource allocation process involves some conflict of interests. These are better resolved when all parties understand that such conflicts are likely to exist and that it is in the nature of the case that some interests will win and others

will lose. The greatest hazard to the new participative role of faculty in resource allocation through the budget is faculty paralysis. The goal of faculty participation is to retain, insofar as possible, the inner-directedness of academic institutions. To do this requires the development of standards by which the institution should be judged and methods for faculty participation in the difficult case of readjustment and reallocation. A system that relies on the faculty role can be paralyzed if the faculty cannot make the necessary decisions.

When the academic institution was managed by a collection of professionals, neither the methods nor the theory of management was essential to performing the faculty role. Now they are. Simply put, management is concerned with two main functions in an organization—making the decisions that allocate resources and implementing those decisions. Ideally, the first function would be guided by agreed-upon statements of goals. The new Management by Objectives programs being advertised in education journals are systems for setting organizational goals based on the goals of its individual members. But, in fact, the goals of most organizations are produced in the continuous decision-making process of allocating. Implementing involves the more mechanical roles of establishing rules of performance and preparing records and information to be used in evaluation of the decision, which in turn become useful for future decisions under the first function.

The management methods now being applied to higher education are more helpful in implementing than they are in allocating. In the absence of early involvement in the system's process, the goal function will be decided by the questions put to the budget process. The way the questions are developed will be the major influence in determining how they will be answered. That is why it is important for faculty members to understand not only the details or the mechanics of the budget but also the basic theory of the budgeting system.

A splendid primer on the major budgeting systems was included in the 1973 annual report of the Institute of Technology at Southern Methodist University (SMU). It presents a brief analysis of the seven basic approaches to budgeting. It begins with the "every tub on its own bottom" approach and contrasts it with the "king's decree" method of budgeting. Between these two extremes of decentralization and centralization, there is the "squeaky wheel gets the grease" approach, followed by the "formula" approach designed to overcome the arbitrariness of the "squeaky wheel." The final three are the more technical approaches, namely, (1) the planning/programming and budgeting systems (PPBS), which seek to relate budget decisions to program decisions; and (2) the "zero base budget system," which abandons the old method of budget defense, namely, justifying the increase over the last year. It requires instead that each budget presumes to begin at point zero. The entire budget must be justified in detail as if the activity were starting for the first time. Finally, the seventh budget system described in the SMU publication is the "objectives, strategies, and tactics" budget, a method of dealing with the strategic budget. It includes those items that are discretionary to current operations and for which optimum long-term results are sought. Its theory is to focus on objectives and goals with quantitative statements of intention and purpose. The strategies will follow.

Even this brief review of the seven major types of budgets should

be sufficient to indicate the ways in which decisions can be predetermined. Without participation in the earlier process, participation in the budget process may in fact be simply ratifying earlier decisions. Effective participation requires not only an understanding of the premises and, where possible, participation in their formulation, but a continuous effort to develop an overall view of the institution and have that view inform the resource allocation process.

An understanding of the larger setting within which these management processes are occurring is essential because the complexity and momentum of management technique make it easy to lose sight of its academic purpose. Methods are powerful and even under ideal conditions tend to become an end in themselves. A case in point is the report of the National Commission on the Financing of Post-Secondary Education, published in January 1974. It transformed the simple, folk method of estimating the unit cost of activity into the most important educational policy issue of 1974. Simple ideas were given sophistication by the management movement in the late 1960s, and within a few years they became a matter of national adaptation. So great was the momentum generated by the management movement that the commission recommended that the federal government require national unit cost data as a condition of appropriating funds for higher education. That proposal came perilously close to becoming federal policy. There was strong reaction against it, and, to his credit, the Commissioner of Education decided against the proposal.

For faculty members today, the larger setting is not the Congress, but the campus. Almost every institution in the nation has shifted its internal strategy from one of "trading up" to reach its quality and program goals, to one of "trading off" one program for another. Management tools properly applied will enable the faculty to participate in this difficult trade-off process. The danger is that faculty participation will become a ritual in a process with a predetermined result.

3

Facts and Fictions About Educational Efficiency

What constitutes educational efficiency, and what are major impediments to achieving it? Even small increments of greater educational efficiency may have significant budgetary benefits. Within the larger political framework of academic institutions, faculty should, as much as possible, be involved in the budgetary process of the whole institution, rather than with simply their own or departmental concerns.

ARE THE OUTCOMES OF HIGHER EDUCATION WORTH THE cost? This is one of the most compelling questions in education. Would society be better off if some of the $35 billion spent on higher education each year were shifted to other uses—environmental improvement, say, or early childhood education, or personal consumption? Conversely, would the public interest be better served if resources were shifted from other uses into higher education? Or, to consider still another dimension, would higher education be more productive if it were reorganized according to type, size, mission, program, or method?

These are efficiency questions, and they are very much on the minds of legislators, donors, parents, students, and the public, all of whom bear the cost of higher education and receive, in various ways, its benefits. But questions of this kind are also increasingly on the minds of conscientious educators who want to produce the highest possible social return with the funds entrusted to them.

Within each college or university, efficiency questions typically are faced when decisions must be made about an institution's mission and the deployment of resources to achieve it. These are budgetary decisions. They are influenced to varying degrees by outside legislative and coordinating bodies, accrediting groups, and custom; but generally a large part of budgetary decision making occurs on the campus itself. Faculty members are or should be deeply involved, even though few of them may actually take part in the formal

budgetary process or see final budget documents.

We begin with the question of efficiency. In general, we define efficiency as effectiveness in accomplishing some stated end. Efficiency is measured as a ratio of ends to means. In economic terms it is measured as a ratio of output to cost. Output refers to the quantity of desired product (or "outcomes," as we say in education); cost refers to expenditures for the services of necessary personnel and capital. Efficiency rises, for example, when outcomes are increased as costs remain constant, or when outcomes remain constant while costs decrease. The greater the ratio of outcomes to costs, the higher the efficiency.

It is often argued that a concept so crass as efficiency is quite out of place in endeavors so lofty as education; but in its general form (as simply a favorable relationship between ends and means), the concept applies wherever people use their time, effort, and capital

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One primary institutional priority is attracting and retaining a faculty of quality and high morale. In the long run this is possible only if budgetary decisions are reasonable, fair, and related to the legitimate professional and personal aspirations of faculty. In the short run, especially in times of crisis, a governing board or administration can override faculty goals, but in the long run they cannot do so without serious, campuswide damage. Even in today's tight faculty market, the most competent faculty members are also the most mobile; the most capable prospective faculty members have the most choices.

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in quest of specific ends. Faculty often reject notions of efficiency as appropriate for the industrial model but not for a creative learning environment. Although we may wish to avoid sheer quantification of results, maximized outcomes must eventually be weighed in relation to costs even in the process of human development.

In education, for better or worse, estimates of efficiency will be based largely on subjective judgments about outcomes. The mere fact that a given educational method (larger classes, for example, or computer-assisted instruction or off-campus experience for credit) lowers cost per student does not prove that the method is more efficient unless no corresponding loss in quality has been sustained. The efficiency goal is not merely to reduce cost per student; it is to alter favorably the ratio between outcomes (which includes quality) and cost. In the best of all possible worlds, outcomes are enhanced at the same time costs are cut—and this is by no means impossible.

What, then, are the principal impediments to educational efficiency?

First, fundamental institutional rigidities. Colleges and universities have large investments in plants and equipment, generally designed for programs and methods of the past, not for the future. They carry large numbers of tenured or semitenured faculty, ad-

ministrative officers, and staff. Characteristically, the skills of academic staffs are set, their educational philosophies are fairly stable, and they are steeped in academic tradition and have certain expectations (tantamount to contracts) about their institution's programs and methods. Institutions are obliged to carry students through courses to degrees on the basis of programs in effect when these students were admitted. Typically, also, institutions are short of capital to buy new buildings and equipment, or to employ the new staff needed for innovation. Under such conditions, change, unless impelled by crisis or stimulated by new money (an increasingly rare occurrence), is at best sluggish and fraught with internal stress and strain.

A second impediment to efficiency is political in nature. The formal or tacit consent of many groups is required before significant change can occur. These groups include faculty, students, and trustees, and sometimes nonacademic staff, public officials, donors,

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accrediting bodies, graduate and professional schools, and professional associations. The political process in academe is not unlike that of getting a bill through Congress, approved by the President, sustained by the courts, and administered by the executive agency in accordance with the law's terms and congressional intent.

A third impediment is risk. The outcomes of any change in program or method are uncertain, and some changes—one never knows in advance, of course, which ones—are bound to fail. Moreover, certain kinds of changes, especially those involving departures from tradition, cutbacks in program, or the elimination of luxuries, involve the risk of adverse effects on an institution's reputation and sometimes work against student recruitment, private gifts, and even legislative appropriations. Although risk is a two-way street in that innovations may produce unexpected gains, it is nevertheless an impediment.

A fourth obstacle is the difficulty of appraising the outcomes of new teaching and learning programs. If, after an institution has endured the stress of change, one is unable to tell for sure whether the innovation has raised or lowered quality, why undertake the change in the first place?

Fifth, the slowing down of enrollment growth and the onset of the

"steady or declining state" probably increase the difficulty of successful change. Less often can new programs be add-ons that do not disturb the status quo; more often they can be adopted only at the expense of existing programs.

None of these impediments is insuperable. Personnel do change; institutions do acquire new capital; political obstacles are overcome; risks can be taken; outcomes can be judged even if not measured precisely. Nor should the impediments necessarily be lamented. The academic community, constantly besieged by proposals, many of which are passing fads or foolish nostrums, needs some stability of values, purposes, and methods if it is not to be pushed and pulled in sundry directions. But whatever one's view of such matters, the impediments make the process of change exceedingly slow. They explain the fact that higher education is technologically backward. From the point of view of institutional leaders, the amount of change possible within the typical planning horizon of a few years seems so small that the effort and trauma involved may appear excessive. Yet it is obvious that an institution that does not seek ways to improve its efficiency—to do a better job with given resources, to do the same job with fewer resources, or best of all to do a better job with fewer resources—is certain to ossify and lose its relevance to the real world.

Over many years, until recently, the average cost per student for the entire higher educational system (in constant dollars) has risen at a rate of about 3 percent a year. It has been estimated (and confirmed by experienced educators) that a reasonable goal for a college or university would be to reduce this to 2 percent by cutting out one third of the annual increases. A saving of 1 percent a year may seem trivial; but differences can be made, not by sporadic bursts of cost cutting that only create traumas but by a regular and sustained slowdown of rising costs.

Similarly, 1 percent a year might be a reasonable goal for improvement in outcomes per student. Improvements in outcomes are of course more difficult to document than reductions in cost, but assuming that imperfect measurements, common sense, and judgment would suffice for the appraisal of outcomes, there is no reason to believe that such improvements on the order of 1 percent a year are unattainable.

On the other hand, if the quest for efficiency is designed to bring out drastic change within a year or two, devastation is the most likely result. The meat-cleaver approach will work only under conditions of crisis, and results are likely to be uncertain.

One primary institutional priority is attracting and retaining a faculty of quality and high morale. In the long run this is possible only if budgetary decisions are reasonable, fair, and related to the legitimate professional and personal aspirations of faculty. In the short run, especially in times of crisis, a governing board or administration can override faculty goals, but in the long run they cannot do so without serious, campuswide damage. Even in today's tight faculty market, the most competent faculty members are also the most mobile; the most capable prospective faculty members have the most choices.

Administrative officers must rely upon faculty members for guidance in budgetary decisions. No president, provost, or business officer can know with any degree of confidence the instructional and

research needs of fields ranging from astronomy to anthropology, thoracic surgery to mathematics, accounting to studio art. Proposals, information, and advice for budget making must flow in from faculty members throughout the institution. Faculty, therefore, must have thorough and objective understanding of the total budget process.

In the politics of the academy, a central administration must have faculty support and cooperation to survive. Without them, no administration can long carry out its programs and plans. As an interest group, the faculty operate partly as individuals, partly as departments or colleges, each pushing for the advancement of his or its own activities, each serving as a guardian of academic standards and academic traditions. They seek new equipment, more building space, assistance, books for the library, new programs, and better students. Faculty members goad their departmental chairpersons and deans into pressing for more and better resources. One of the criteria of a "good" chairperson or dean is the ability to deliver more resources for his or her area. In these matters different groups of the faculty are competitive with one another, but in combined effect the many pressures make it difficult for the central administration to allot less to instruction and research than its full share.

The faculty as a whole also press constantly for higher salaries, more fringe benefits, and lower teaching loads. In these matters the faculty tend to become more united than they are in their efforts to win support for particular disciplines, and the effect on the administration is accordingly even more persuasive. There are few institutions where faculty salaries are not a budget item of the highest priority.

There is an obvious disjunction between the faculty as an aggregation of competing interests and the faculty as a whole as represented on committees to consider the institutionwide budget. A major objective of institutional leadership should be to try to bring faculty into the budget-making process in ways that encourage an all-institutional point of view as opposed to a narrow, competing-disciplines point of view. When formal faculty participation in budget making is achieved on terms that lead to genuine responsibility for the welfare of the whole institution, the power of faculty as a collection of narrow and partisan interest groups tends to be moderated.

On the growing number of campuses that are governed by public coordinating bodies or absentee system administrations, budgets tend to be set by fairly mechanical formulae. In this case, the scope for local budget making and the role of the faculty either as a pressure group or as consultant is greatly restricted, and faculties are likely to seek to restore some of their traditional powers through collective bargaining.

One of the most controversial issues in academic life is the allocation of faculty working time between instruction and research. Efficiency calls for balance. Allocations of faculty time between instruction and research should be such that the general cultural heritage is preserved and knowledge advanced, and that faculties are not unduly distracted from teaching, and institutions do not become intellectually stagnant. Different institutions reach different solutions. However, where heavy commitments are made to research beyond that necessary to foster an intellectually stimulating envi-

ronment, the budget should allocate faculty and other costs between research and instruction so that the true cost of each may be estimated. In the calculation of student-faculty ratios and the estimates of instructional cost, only that part of faculty time properly assignable to instruction should be counted. Institutions that provide substantial faculty time for research and therefore have seemingly low teaching loads and seemingly high instructional costs per student are often criticized unfairly. After proper allowance for faculty time devoted to research, their costs may be quite reasonable. Thus, in appraising the efficiency of any institution, it is necessary to identify its goals for both research and instruction, and separate costs for the two purposes.

Another efficiency issue relates to the adding or dropping of instructional programs. Questions like these must periodically be faced: How many major fields should a college or university offer? Should an institution introduce new vocational programs to train paraprofessional workers? Should students be admitted who have not graduated from high school? Should extension courses, special adult programs, or external degrees be offered? Should programs of high unit cost in classics, Chinese language and literature, or nuclear physics, for example, be dropped?

Such questions have implications for both costs and outcomes. The offering of a multitude of programs is likely to result on the average in small enrollments per program, inadequate faculty diversity within each program, and overall low (and costly) student-faculty ratios. No college or university can afford to diffuse its efforts too widely, unless it intends to follow a path to bankruptcy. On the other hand, a restricted range of programs may result in a narrow intellectual community and may not attract and hold students.

The dropping of programs often precipitates political controversy within a college or university. When an existing program is being considered for deletion, the faculty and students immediately affected and the related professional or business groups, together with their friends, can usually be counted on to stir up opposition. Often the issue is carried into the public press and the legislature. Because of the intensity of such opposition, most institutions continue programs that, on both educational and economic grounds, ought to be eliminated. Such programs are seldom undesirable per se, but they are not necessarily useful in the institution in question and should perhaps be offered somewhere else.

A high price is paid by American higher education for curricular proliferation. In a study made by Howard Bowen and Gordon Douglass a few years ago (*Efficiency in Liberal Education*, McGraw-Hill, 1971), a typical liberal arts college of 1,200 students was found to be able to offer a high-quality education with about 225 courses. In fact, most such colleges have two to three times this number of courses. Cost per student (holding all other variables constant) varied as follows:

Number of courses	Average class size	Cost per student per course
450	17	$280
335	20	240
225	30	170

Given the curricula, there are many possible instructional methods for each course. The range of possibilities includes:

- Lecture in large classes
- Lecture-discussion in smaller classes
- Seminars in very small groups
- Programmed independent study available in sizeable groups of students
- Individual independent study
- Tutorial instruction available individually or in groups of two to four
- Mechanized instruction using computers, TV, radio, motion pictures, cassettes, slides, etc.
- Team teaching
- Clinical programs
- Off-campus experience for credit
- Combinations of the above

Such varying approaches are appropriate to different institutions, subjects, types of students, and faculty styles. They involve different costs and produce different outcomes. For example:

Method	Cost per student per course
Individualized independent study with extensive use of mechanical equipment	$277
Tutorial instruction	261
Conventional lecture-discussion	240
Programmed independent study	225
Eclectic plan combining the above methods	212
Very large lecture classes for one fourth of all instruction; small classes for the balance	202

Wide variations in cost, ranging in this study from $277 to $202, result from changes in methods. If one added in even greater potential changes in cost from reduced curricular proliferation, the net effect would be dramatic. Substantial savings are possible in many institutions without serious curtailment of quality. When faculties are considering educational policy, they should give close attention to possible savings as well as to improvements in outcomes. In practice, unhappily, faculty deliberations on educational policy usually give little heed to budgetary considerations.

The major instructional costs are faculty salaries and other expenses that vary more or less in proportion to the size of the faculty. Among these are fringe benefits, use of office space and equipment, secretarial help, faculty recruitment expenses, and certain general overhead. Whereas the average annual base salary for full-time faculty members of all ranks may be on the order of $15,000, the total institutional cost of employing and supporting the activities of one faculty member may average closer to $25,000. The ratio of students to faculty therefore becomes a major determinant of efficiency. If, for example, the ratio could be raised from 12/1 to 15/1, direct instructional costs per student would be reduced by about 20

percent. If this could be done without significant impairment of quality, efficiency would be increased.

Often changes in modes of instruction raise the student-faculty ratio and lower direct instructional cost per student. Examples would be reducing curricular proliferation, increasing the average size of sections, or helping students to learn by themselves without heavy dependence on faculty (as in programmed independent study, mechanically assisted instruction, or credits for community service). On the other hand, changing the mode of instruction while holding the student-faculty ratio constant will achieve little toward lower cost per student. It may enhance the outcomes by improving quality of instruction, but it will not appreciably affect the cost side of the efficiency equation. If unit costs are to be lowered, the number of faculty members employed to teach a given number of students must be reduced or enrollment must be increased while the

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One of the most controversial issues in academic life is the allocation of faculty working time between instruction and research. Efficiency calls for balance. Allocations of faculty time between instruction and research should be such that the general cultural heritage is preserved and knowledge advanced, and that faculties are not unduly distracted from teaching, and institutions reach different solutions. However, where heavy commitments are made to research beyond that necessary to foster an intellectually stimulating environment, the budget should allocate faculty and other costs between research and instruction so that the true cost of each may be estimated.

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number of faculty members is held constant. The politically easier route is expanded enrollment—provided students can be found. The more difficult way is to cut the faculty roster. Under likely future conditions for most institutions, reducing the size of the faculty is the only available option. This raises several questions.

The first is the practical one of how to go about reducing the size of a faculty. It can be done if the process can be spread over several years. Normal turnover through death, illness, marriage, retirement (including early retirement), or resignation, more discriminating judgment in tenure decisions, and removal for gross incompetence, can bring about reductions in staff of 10, 20, or even 30 percent over five or ten years. Such reductions cannot be achieved, however, in a year or two and if attempted will produce catastrophic results.

Academic employment is not a sinecure, and colleges and universities should not be burdened with unneeded personnel. If they are, their fate will be similar to that of the railroads, which were driven to bankruptcy in part by unconscionable featherbedding. Academic people are well-educated and versatile, and most of those who do not remain in teaching will find fruitful careers in business, government, religion, social service, and other vocations. Considering the

practical value of learning, educated people are not doomed to unemployment or failure if they do not land secure berths in the academy. Moreover, the outside world of affairs might well be benefited if more persons of education and sensitivity were actively involved in it.

One of the surprising facts about higher education is the considerable variance of expenditures per student among institutions which seem to have comparable missions and comparable quality (see chart on page 35).

One may easily shrug off these cost differences with the observation that statistics mask many significant variations in mission and quality, but within any broad category, small numbers of institutions that are known to have comparable missions and roughly comparable quality have wide differences in expenditures per student. It is simply not credible to assert that these variations do not in part reflect differences among institutions in efficiency of operation.

These differences in expenditures per student arise about largely because some institutions could raise more money than others and therefore could spend more. Such cost differences are not necessarily due to differences in mission and do not always reflect differences in educational quality. Some institutions simply make a dollar go further than others.

In summary, quality and affluence are not perfectly correlated, and in most institutions there is room for improvement in outcomes with existing funds, or for reductions in the rate of growth of expenditures while maintaining existing quality. More important, in many institutions there is room for improving the outcomes and at the same time slowing the rate of growth of expenditures. This is a challenge to every institution and faculty member.

Educational Expenditures Per Student (Full-time Equivalent) 1975 (est.)[1]

	Low	1st Quartile	Median	3rd Quartile	High
Doctoral-granting institutions	$1,500	$2,550	$3,450	$5,700	$13,500
Comprehensive colleges I [2]	675	1,500	1,800	2,250	6,000
Comprehensive colleges II [3]	900	1,650	1,950	2,250	5,250
Selective liberal arts colleges	1,350	2,700	3,600	4,200	8,850
Other liberal arts colleges	525	1,800	2,250	2,775	5,850
Public two-year institutions	375	1,200	1,500	1,725	3,225
Private two-year institutions	825	1,425	1,950	2,475	3,750

(1) Source: Carnegie Commission on Higher Education, *New Students and New Places*, McGraw-Hill, New York, 1971, pp. 70-80. The data are estimates and updated.

(2) Institutions with a liberal arts program, at least two professional or occupational programs, and at least 2,000 students.

(3) Private institutions with at least 1,500 students and public institutions with at least 1,000 students offering liberal arts and at least one professional or occupational program.

4

Some Definitions of Educational Costs

Academic economics are best understood by looking at educational costs and pricing, student demand, and the supply and demand of skilled academic personnel. To understand these components is to understand the complex web of economic factors that help determine institutional health. One can then more readily discover: Who pays for what? How are costs determined? And what is affordable?

ONE IS NEVER CERTAIN WHETHER ECONOMICS REALLY IS the dismal science portrayed by Carlyle or whether it is simply that the public pays attention to it only in dismal times. The last two or three years have been particularly dismal for American higher education, with severe federal cutbacks in research and graduate assistance, double-digit inflation outstripping faculty salary increases, and falling student demand decreasing institutional income—all resulting in the dismissal of faculty members, many of them tenured. These stresses, coupled with demands from the outside for more "accountability," have greatly increased the awareness of economics among members of the academy.

The first reaction of many institutions facing financial difficulty is to try to cut costs. It sounds so simple to ask, "What does it cost to teach lower division English at your school?" and then to compare the costs of English instruction with, say, the costs of physics or fine arts at other institutions. However, the question is simplistic rather than simple, and the currently available answers are usually meaningless because "cost" means something different to each analyst.

When a dean hires a faculty member for a year for $12,000 plus 10 percent fringe benefits, the cost of that decision is $13,200 a year and must be put in the budget. If this faculty member is hired for a two-year contract, the cost of that decision is $26,400, but it will only appear in the next year's budget at $13,200. If a tenured professor is hired at $20,000 a year plus 10 percent fringe benefits and one could

reasonably expect the professor to stay at the institution 15 years, that employment decision has a cost of $330,000 (more if the salary is raised). Once again, only the annual salary will appear in an annual budget, but as long as the tenured appointment is honored, the cost is $22,000 a year plus any increases.

The cost of the decision to purchase goods or services usually is readily calculable because the prices are established outside the college or university, although not always in the same marketplace. (Each faculty salary schedule is established in reference to its own market.) In considering the costs of decisions to purchase goods or services, one must pay close attention to the fact that decisions extend over different periods of time. The purchase of facilities or equipment, the employment of faculty on multiyear contracts or with tenure, and the long-term lease of computing facilities, automobiles, or other equipment all entail the commitment of future resources. Comparing current-year costs of some decisions with the multiple-year costs of other decisions is a little complicated because, in general, a dollar in the present is worth more than a dollar in the future. A faculty salary of $15,000 this year is usually considered more "expensive" by an institution than a faculty salary of $15,000 to be paid three years in the future because (a) a school could invest $12,000 today in government-guaranteed notes that would yield $15,000 in three years, and (b) increasingly it is expected that significant inflation will continue. Because of the different commitments through time of different decisions and the fact that, dollar for dollar, present commitments are more expensive than future ones, the "present value" costs of each decision can be measured only if the present value is adjusted to reflect the future time-commitment aspects of each decision.

All this seems reasonably clear: One asks the costs of possible alternative decisions, associates the costs with the benefits, consequences, or contributions of each possible decision, and then makes a judgment about what set of decisions does the most good with a given amount of money for the college or university. However, this is not the way most institutions formulate budgets or consider costs. Most institutional financial accounting systems are designed to compute the costs of some activities, but not of decisions, and these systems usually deal with annual expenditures, not the multiple-year commitments of the actual decisions that are made.

Determining the cost of an activity (such as freshman chemistry instruction) is very different from determining the cost of a person employed or a resource used by the institution (a professor of chemistry, a laboratory assistant, a liter of nitric acid). The first task in ascertaining such costs is determining how much of what resources is used. It is often relatively easy to isolate the computing resources used by an activity because every computer user usually is issued a job number against which computing time used is charged. But what about a faculty member who teaches freshman and graduate chemistry, or chemistry and physics? What about the library that serves the entire campus, including chemistry? What about the personnel officer who employs people for chemistry; the purchasing office that orders chemical supplies; the building and grounds office that cleans the laboratories and pays the utilities; and so forth? Suddenly, costing becomes very complex.

Institutions usually distinguish between "direct costs," the costs

of the immediate use of resources in the activity (faculty and staff time, supplies and services consumed), and "indirect costs," the costs of the use of resources that are reasonably attributable to a particular activity and are usually shared by many activities. If any resource is used directly in two or more activities, a way must be found to divide the cost of that resource among the various activities. For example, how does one divide the annual salary of a professor who teaches both freshmen and graduate students? Some institutions ask faculty to fill out "activity analysis" forms listing the percentage of time or the number of hours devoted to each activity. Other institutions ask department chairpersons to report to the administration their judgmental allocation of faculty time by activities. Still other institutions use the number of class hours faculty spend in scheduled courses of each level to compute the fraction of a faculty member's time that is to be charged to each activity. At least a few institutions have asked students in surveys how faculty have spent their time.

By one procedure or another, budget or analytical studies offices assemble an estimated distribution of faculty time among all of the activities of the institution. Because faculty salaries constitute between 50 percent and 75 percent of the total annual operating expense of a college or university, this distribution is the single most important judgment in determining the cost of an activity.

Other procedures are then followed to estimate the other resources consumed directly by an activity. Maintenance and operation expenses might be allocated in proportion to the number of square feet of space used by an activity. Direct charges such as

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Virtually everyone in higher education experiences the current general price inflation and is helpless to retard it. Consumer prices have gone up much faster than people have come to expect; for the first time in many years people are experiencing a decline in real purchasing power. Faculty members will undoubtedly seek and some receive sizable salary increases, but it is difficult to foresee a pattern of increases adequate to keep pace with double-digit (10 percent or more a year) inflation. Meanwhile, the other costs of operating institutions are soaring. It seems very likely that in the future, institutions of higher education will pay more, buy less, and learn to cope with the misunderstanding and political antagonism this engenders.

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computing, supplies, telephone, or travel are accumulated and assigned to an activity. The objective is to include every expenditure that can reasonably and directly be related to an activity. The total of all the faculty salaries, support staff salaries, teaching or laboratory assistant salaries, supplies, travel, space, and other costs is then called the direct cost of an activity.

For instructional activities, the cost analysis is often carried one

step further: the calculation of unit costs. Instructional activities often have several reasonable measures of units of activity associated with them. For example, course enrollments, the number of students majoring in a field, the number of student credit hours awarded in a department, or the number of degrees awarded in a field have all been used as the units of instructional activity. A unit (direct) cost of an activity is simply the result of dividing its direct cost by the chosen measure of its units. The most common unit costs are the dollars spent per credit hour or per student major.

Indirect costs, which by definition cannot be readily and uniquely associated with a single activity, are aggregated into accounting categories. The most frequently used categories are those established by the *College and University Business Administration Manual*, which lists, among others, organized activities, general institutional services, general administration, library, auxiliary enterprises, student services, student aid, and staff benefits. Then, in accordance with federal and state regulations, traditional accounting practices, and institutional policy, schools assign aggregated expenditures into "allowable indirect cost pools." These pools are allocated to the directly costed activities on the basis of arbitrary formulae that are in turn often based on either total salaries and wages or total direct expenditures in the direct activities. "The allowable indirect cost rate" is usually in the range of 45 percent to 90 percent of total direct expenditures; in government contracts and grants, this rate is often called "the overhead recovery rate."

To summarize at this point, the total cost of an activity to an institution is the sum of the direct and fully allocated indirect costs. Similarly, the total (or full) unit cost of an activity is the result of dividing its total cost by the chosen measure of it. This is the general process that produces the frequently cited figures for institutional costs per student, something in the range of $1,000 to $5,000 per student per year. What sounds so definite and precise—$1,783.60 per student in lower-division engineering, $2,472.23 per student in graduate English, for example—camouflages a great deal of uncertainty, ambiguity, and confusion.

While the cost of a decision is a fact established outside of the institution, the cost of an activity is primarily a judgment. The direct and indirect costs of an activity reflect dozens or hundreds of individual judgments about how much of a faculty member's time and salary to allocate to each activity, how much indirect cost is "allowable," how much of the allowable indirect cost is allocated to each activity, and which units of activity are used to calculate unit costs. A creative accounting officer can vary the unit cost of almost any activity by a factor of at least two and sometimes as much as ten and still be consistent with regulations and accepted accounting practices. One should interpret a unit cost as one person's opinion about which reasonable people can and will disagree, an estimate that is susceptible to wide variation depending on the observer and is certainly subject to negotiation.

Activity costs in general and unit costs in particular convey a false impression of how costs will change as workload changes. The direct or total cost per student represents the average such expenditure per student. Nothing could sound more reasonable and be more misleading than the idea that if the number of students increases (or decreases), budgets should go up (or down) proportional

to the changes in enrollment and the unit cost per student. Admitting one or a hundred more students may cost very little, but hiring additional faculty and support staff, building or renting additional classrooms or laboratories, providing additional financial aid and student services all require additional resources. The cost of these additional resources is called a marginal cost.

Traditionally, decisions that entail marginal costs have logically followed a decision to increase enrollment or other workload. In the past several years, however, these logical relationships have come unstuck. As a way out of financial stringency, some private institutions have increased enrollment (and tuition revenue) while holding the size of the faculty constant. Because of financial limitations, some state legislatures have required public institutions to accept larger enrollments without providing proportionally more resources. Traditional cost relationships have also come unstuck because they were based on the effects of constant growth. In these days and perhaps decades of decreasing enrollments, many institutions are finding that expenditures do not automatically decline simply because enrollment does. Expenditures decrease only when faculty or staff are dismissed or not replaced, rental space and equipment are given up, purchasing is reduced, energy resources are saved, mortgages are paid off, and so on. Expenditures change when decisions change—not when workload changes—and the two are not automatically related.

The relationship between all the resources used by a college or university and all the services (or workload, or outcomes) provided by the institution is called its efficiency. In the abstract, efficiency is difficult to oppose because increasing it means an institution can better accomplish its objectives with the same resources or maintain its current quality and quantity of service at lower cost (an objective particularly important in these days of scarce institutional resources).

It seems plausible, but is usually incorrect, to interpret currently available unit costs as a measure of efficiency. Some of the combinations of technology and institutional arrangements discussed in Chapter 3 will in fact result in lower unit costs, especially when qualitative changes are considered. Unfortunately, costing techniques currently available in higher education cannot establish which programs are efficient and which programs are not (because of low quality, excessively expensive resources, rapid changes in enrollment or other workload, the hidden effects of one-time-only capital expenses of gifts, or other special circumstances).

After over six decades of experience in determining costs in higher education, we are on the way to knowing the cost of everything and the value of nothing. In addition to concepts of costs and the limitations of current costing techniques, the economics of higher education is also concerned with the roles of prices and values in influencing individual and institutional decisions.

One reason department chairpersons, deans, and presidents worry about costs is that costs become prices for resource acquisition. If the chairperson of physics can show that physics costs or ought to cost $2,500 per student enrolled, and if 40 (full-time equivalent) students do enroll, the chairperson will request $100,000 to operate the instructional program, and if 20 more students enroll the next year the chairperson will expect another $50,000. In this sense,

a department "earns" revenues by "selling" instruction, research, and other services. Except perhaps for the private professional schools, the price of instruction is negotiated not with the students but with the campus administration. The negotiation begins with current costs plus inflation and any special circumstances.

There is no reason to believe that cost-determined prices reflect the values or priorities of an institution, especially in areas of activity that have recently received significant outside financial support. Furthermore, cost-determined prices create an incentive for always increasing costs (by hiring more faculty and staff or increasing salaries) because higher costs justify higher tuitions or higher state budget requests. Of course, one cannot go to the well too often; the unwillingness of individuals, their families, and legislators to pay more is the real brake on the cost-revenue spiral.

Independent of the rationale upon which prices are based, budgeting formulas can provide clear signals to faculty members and organizational units about an institution's values and priorities. In the mid-1960s, many budget formulas provided two to three times as much money for each graduate student enrolled as for each undergraduate student. Therefore, expanding graduate enrollments instead of undergraduate enrollments enhanced not only a department's prestige but also its resources. Expanding graduate enrollments also increased the demand for advanced graduate courses,

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As traditional enrollments begin to stabilize, the competition for students will increase and many colleges and universities will turn to time-tested marketing techniques. Depending on the marketing actions of competing institutions, a college could increase its enrollment by one of these techniques, but institutions should be aware that increased demand does not automatically translate into improved financial condition, especially if the increased demand was purchased at a very high price (massive student aid, for instance, or expensive curricula or operating arrangements).

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which many faculty like to teach, and simultaneously increased the supply of teaching assistants to teach undergraduate introductory courses, which many faculty do not like to teach. However, the microeconomy of departments has been upset in the last five years as the apparent surplus of new doctorates called into question first the forecasts of even larger graduate programs and then the need for incentives to stimulate the growth of graduate programs.

The professional reputations of many colleges and universities are based in part on the academic and career placements achieved by their graduates. When the job market is expanding, there is an incentive for departments to increase their graduating classes to meet the larger demand. When the job market contracts, departments have the opposite incentive—to reduce the number of graduates. But there is often little corresponding incentive to reduce the

number of individuals enrolled, because that would reduce revenues. The economy of academic departments will probably be only slightly different in the next decade, with some marginal shifts of emphasis, unless academic administrators consciously choose to establish prices through budgeting formulae that truly reflect the priorities and objectives of the institution.

One cannot leave the subject of prices without discussing inflation, the condition of generally rising prices affecting most goods and services. Virtually everyone in higher education experiences the current general price inflation and is helpless to retard it. Consumer prices have gone up much faster than people have come to

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The rationale for creating, expanding, or contracting particular academic programs is often the need (or lack of it) in the economy for the skilled personnel the programs are preparing. If we had a good idea of the number of persons needed with each general skill, we could in theory adjust the size of our educational and training programs to ensure we produced enough and not too many individuals with each skill. This theory is another alluring quagmire that has a thin crust of validity.

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expect; for the first time in many years people are experiencing a decline in real purchasing power. Faculty members will undoubtedly seek and some receive sizable salary increases, but it is difficult to foresee a pattern of increases adequate to keep pace with double-digit (10 percent or more a year) inflation. Meanwhile, the other costs of operating institutions are soaring: Fuel costs are up by a factor of 2 percent to 4 percent, library acquisitions costs are up 20 to 40 percent, construction and repair costs are still bounding, and so are costs of specialized scientific equipment, paper, fiber, metals—the list is almost endless. It seems very likely that in the future, institutions of higher education will pay more, buy less, and learn to cope with the misunderstanding and political antagonism this engenders.

Two scholars recently pointed out that the academic economy is one in which consumers don't buy and producers don't sell, and in public institutions those who pay for higher education have traditionally decided neither what to produce nor what to buy. While these traditions may evolve, the direction of change in state and national financing policies is toward the students as the party at interest and therefore the ones who should make basic resource allocations. Once again, the apparent simplicity of student-based financing programs is a thin veneer over a very complex problem.

Most goods and services that individuals ordinarily deal with have one or a very limited number of prices. Higher education is an unusual service in the American economy because the net price charged students potentially varies with every individual. The advertised price—tuition—differs from one institution to another. The

price discounts offered—student aid—differ from one person to another as well as from institution to institution. Scholarship assistance from noninstitutional sources lowers the net price and also differs from one person to another. Consequently, the net price of higher education depends more on the individual than on the service provided.

In general, as the price of one product or service increases relative to other prices and individual income, one expects an individual to purchase less of that product or service—this is the economic law of demand. Conversely, one would expect an individual to consume more of a product or service if the price is reduced relative to other prices and individual income. Student aid reduces the net price of attending a college or university and is intended to increase the willingness of individuals to attend a college or university. Raising tuition increases the net price and can be expected to have the opposite effect.

The level of tuition to be charged is usually an institutional or state government decision. The amount and distribution of student aid is primarily a decision of the federal government, which provides about 90 percent of the student aid in the United States. Consequently, colleges and universities do not establish their own net prices to be charged individuals. Nevertheless, colleges and universities are expected to respond to and be responsible for the resulting demand.

As traditional enrollments begin to stabilize, the competition for students will increase and many colleges and universities will turn to time-tested marketing techniques (such as aggressive advertising and recruitment, increased price discounting, easy financing arrangements, product differentiation, and increased convenience of time and place of purchase). Depending on the marketing actions of competing institutions, a college could increase its enrollment by one of these techniques, but institutions should be aware that increased demand does not automatically translate into improved financial condition, especially if the increased demand was purchased at a very high price (massive student aid, for instance, or expensive curricula or operating arrangements).

During the last decade, the federal and state governments have become concerned with increasing the level and equalizing the ethnic composition of student demand, and with reducing the financial barriers to higher education for individuals from low-income families. The federal government and most state governments do not recruit and admit students, design new curricula, schedule course offerings, or select magnetic faculty; the main instruments of this public intervention in student demand are student grants and loans.

Many factors affect a student's decision to go to college and choice of which one to go to. Research on student demand has shown that the net price charged a student is a small but significant factor in the student's choice of college or university. Student ability, previous academic performance, family occupation and education, high school tracking, and peer-group attitudes and values all significantly affect individual decisions to attend college. It is interesting that after accounting for the impacts of family occupation and education, the effect of family income on an individual's choice of college is relatively small. However, the current assumption of public policy is that low family income creates a financial barrier to

college attendance, and eligibility for student aid is therefore largely determined by family income, family assets, and the number of children in college.

Under the broadly based federal program of Basic Educational Opportunity Grants, approximately half of all undergraduates now enrolled in all forms of postsecondary education are eligible for some amount of federal student grants. Basic Grants and other federal and state student grant programs in small part increase student access to postsecondary education, but in large part they either distribute income from government to individuals from low- to middle-income families who would have enrolled anyway or support institutions, encouraging them to redirect institutional funds previously devoted to student aid to support other institutional activities.

Many institutions are currently operating at a deficit partly because of the tremendous expansion in their commitment to student aid in recent years. As other sources of student aid become available, many institutions will be anxious to reduce their expenditures for it proportionately. If federal programs merely replace the institutional programs on a dollar-for-dollar basis, there will be little impact on student choice, but significant impact on institutional finances. If more students receive aid than before, it will still be difficult to determine the additional number of individuals enrolled in a college or university because of the change. Most student aid programs can tell you how many checks they have written; few can tell you how many additional students are enrolled because of the program.

The economics of student loans is similar to that of student grants, with a few exceptions. The only part of a loan that should be interpreted as student aid is the difference in interest between the prevailing market rate and the lower rate charged students under the various loan programs. The principal should not be considered as aid at all. With the exception of the occupation-specific forgiveness provisions in a few loan programs, students are expected to repay the full principal and accrued interest. The availability of loans enables some students to study now and pay later. In this regard, student loans are little different from consumer loans. However, ordinary personal loans are not guaranteed by the government and because of higher risk interest on them is 12 percent to 18 percent. With a government guarantee, a student loan is as safe as a government bond and generally pays higher interest (8 percent to 10 percent) than such a bond. The government guarantee of the loan makes it attractive to lenders at 4 percent to 8 percent below the personal loan rate. An insurance fund is created by charging all recipients a small fee, and since loan defaults are paid out of this fund, the direct cost of the guarantee to the government is small.

The current federally insured and guaranteed loan programs go a step further and subsidize the interest paid by an eligible student while enrolled in postsecondary education. More than three fourths of the recipients of guaranteed loans are also receiving interest subsidies under which the student pays 3 percent a year while enrolled and the government pays 5 percent to 7 percent on the outstanding balance. The government payment is the direct student aid component of the guaranteed loan program; the lower-than-market interest rate is the indirect aid component.

A major factor affecting student demand is opportunity cost—the

difference between the return of the most profitable option and the return of the actual option chosen. The income an individual foregoes when enrolling in a full-time study program is the most frequently cited and debated opportunity cost. Although this cost is invisible and doesn't appear in any accounting records of any financial transactions, it is often important in an individual's decision on college. For most wage earners, the opportunity cost of college (foregone income) is larger than tuition, room, board, transportation, and all other additional costs taken together. However, as a matter of public policy, it has been decided not to consider opportunity cost in the calculation of costs to be covered by student aid. Consequently, colleges and universities are not very accessible to mid-career adults and youths entering the labor force early who are often from low-income families and are frequently target beneficiaries of the same programs that refuse to take account of their most important cost.

The rationale for creating, expanding, or contracting particular academic programs is often the need (or lack of it) in the economy for the skilled personnel the programs are preparing. If we had a good idea of the number of persons needed with each general skill, we could in theory adjust the size of our educational and training programs to ensure we produced enough and not too many individu-

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By one procedure or another, budget or analytical studies offices assemble an estimated distribution of faculty time among all of the activities of the institution. Because faculty salaries constitute between 50 percent and 75 percent of the total annual operating expense of a college or university, this distribution is the single most important judgment in determining the cost of an activity.

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als with each skill. This theory is another alluring quagmire that has a thin crust of validity. Reasonable supply-and-demand estimates concerning skilled personnel can help institutions, funders, and would-be students avoid extreme cases of excess supply (such as general elementary and secondary education teachers). But manpower planning misconceptions and misuses are too commonplace for the theory to hold up.

The area of greatest uncertainty is the number of skilled personnel needed (the demand) in the economy and social services of a state or region. First, there is the difficulty of forecasting future economic activity in such an area with the accuracy and timeliness necessary to relate it to educational and training programs. Who could have foreseen four years in advance the cancellation of the SST, the reduction in aerospace procurement, the virtual elimination of the shoe industry as a result of foreign competition, the explosive demand for coal experts as oil became expensive and the supply uncertain, the Russian wheat deal that exhausted U.S. reserves and drove up wheat prices only to be followed by a severe drought so that suddenly agricultural production and self-sufficiency be-

came a national priority again?

Even if future economic and social activity could be anticipated correctly, skilled people can be used in many ways. The recent shortage of medical doctors and allied health science personnel was predicted on the basis of traditional forms of individual practice, but on the basis of group practice the current supply of medical personnel probably would not only suffice, but also provide a surplus. How work is organized has a major impact on the skills that are needed, yet the organization of work and the relationships between work and education are just beginning to be systematically explored.

The supply of trained individuals in a state or region has rarely been surveyed. Only some portion of the total skilled labor supply is working in the labor force at jobs that match their skills. There may be an excess supply in a state as a whole, but important shortages in some regions. A state may experience in- and out-migration of skilled personnel. Increasing the number of people trained in a state may also increase the out-migration of people trained in the state and reduce the in-migration of people trained elsewhere. Recent graduates with relatively low starting salaries may be wanted more even in markets of excess supply because their training may be more relevant than that of older workers whose salaries are higher.

Since usually no single institution dominates the training in a field nationally or even in a state, there is a tendency to assume each college or university can act independently of an adverse market. Ultimately we are all affected by the labor marketplace, some more than others, but the effects are often short-term, unpredictable, frequently changing, and provide little basis for institutional policies.

Colleges and money have been inseparable concerns since the founding of Harvard. The use of money to purchase goods and services to operate a college or university reflects the priorities and policies of funders and administrators. Understanding resource use (costs) and the incentives created by financial policies (prices) will help faculty understand the economics of the academy. Understanding how financial aid and the labor force affect student decisions will help faculty understand the market for their services. Taken together, these basic concepts provide a foundation for asking: Who pays for what? How can financial information be described? What does a commodity cost?

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Who Pays for Education?

Colleges and universities generally rely on four major income sources: student and service charges, governmental appropriations, philanthropic and donor contributions, and borrowing. The relative importance of each has shifted significantly in recent years, and few of these funding mechanisms are easily manipulable by an individual institution. Tuition charges are now highly sensitive to market forces, and they are here analyzed in some detail. All sources of support need to be better understood by thoughtful faculty.

THERE IS AN OLD SAYING AMONG ACADEMICS, WHEN speaking of the natural divisions of campus labor, that the administrators "in the front office" should worry about raising money and the faculty should spend it. Ideally, perhaps, that is the way it should be. But there is a direct line of accountability between those who provide funds and how such funds are spent. And beyond that, faculty, in their broader need to share in budgetary decisions, cannot overlook some fundamental facts of life concerning how their institutions gather their income and from precisely what sources.

There are four general income sources on which most institutions rely in varying degrees: charges to students and other users of facilities; governmental appropriations, philanthropic contributions (either as endowment income or current giving), and borrowing. The basic concept in collegiate financial practice and reporting is fund accounting: The segregation of income and expenditures according to the specifications of donors, the requirements of governments, and the services purchased by clients. Only a part of the income received by colleges and universities can be considered general income—the pool of money subject to discretionary disbursement by boards of trustees. Trustees are the responsible custodians and spenders of the many moneys whose use has been prescribed by others.

While each campus's money sources will vary, it is useful to compare the facts for any given campus with some national averages

(as these were estimated for 1973-74). Out of the $30.5 billion (estimated at $35 billion in 1976) of income reported by all institutions of higher education, 21 percent came out of student fees, 37 percent from state governments, 5 percent from local governments, 12 percent from federal moneys, 2 percent from endowments, 3 percent from gifts, 12 percent from auxiliary charges, and 8 percent from miscellaneous income. Obviously, depending on the nature and circumstances of different institutions, such proportions will vary widely, but seen in the aggregate the general data are significant.

Some 54 percent of all college and university income was obtained from government appropriations. American higher education is substantially dependent upon the patronage of government—tax systems, the appropriation decisions of chief executives and legislators, and attitudes of the taxpayers influencing government actions.

In 1973-74, another 5 percent of received income was obtained from philanthropy (3 percent in gifts and 2 percent from endowments). When this is added to income from government, the conclusion is evident that almost three fifths of all institutional income for higher education was obtained from sources external to the institutions themselves. Only some 40 percent of total income was provided by charges.

Let us consider, in order, income from charges, philanthropy, and government.

The whole business of the pricing policy of colleges and universities is one of the major problems of higher education and deserves careful analysis it has not received. Charges to students are connected, as flows of income, to instruction and auxiliary services. As a percentage of income, both kinds of charges declined between

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Higher education as a social institution depends for its income upon governments, philanthropy, and charges. If increases in charges are undesirable, then the other two sources of income must be increased or institutions of higher education will have to learn to live with less income, a very small rate of income growth, or undesirable charges. If more income is wanted, all constituent groups of the academic community will have to be involved in "selling" the need, demonstrating a convincing case that the public interest can be served and preserved only when colleges and universities are prosperous.

1950 and 1974 (although in dollar terms, tuition charges for instruction increased more than ten and a half times and charges for auxiliary services increased more than seven times). The percentage decline in student fees as a source of income is explained by two facts: the substantial shift of enrollment from 50 percent in publicly sponsored colleges and universities in 1950 to 76 percent in 1973-74, and the pattern of generally lower tuition charges in the public institutions. Auxiliary enterprise income has also declined (as a percent-

age of total income) because in the past 10 years public systems of higher education have tended to expand their facilities in major urban areas where they increasingly serve a commuting student body that relies more on services provided off-campus.

As far as auxiliary enterprises are concerned, college and university policy is fairly clear. The objective is to make all such enterprises self-supporting through charges to the users or consumers of the services thus provided. However, the tuition issue is more difficult. The Committee for Economic Development raised the question in a report published in 1973, and so did the Carnegie Commission on Higher Education. Student groups have formed associations to lobby with state legislators on the subject, and governors, state legislators, and some members of Congress have taken strong political positions on it.

The CED recommended that tuition charges to students in publicly sponsored colleges and universities be fixed at 50 percent of the average cost of instruction per student. The Carnegie Commission suggested that tuition in public universities be increased to one third of "educational" costs and endorsed the idea of differential pricing.

The external problem for higher education is how to attract and keep increased support from the principal sources of philanthropic contributions: alumni, wealthy friends, private foundations, and business corporations. What kinds of services by colleges and universities attract interest and then financial support? What kinds of circumstances encourage alumni and others to offer gifts, and what kinds of circumstances repel them? There are no ready answers, but a college or university that wants philanthropic support has to devise some definite responses and hope that experience will prove them to be effective.

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the lowest charge for lower-division students, a larger charge for upper-division students, and the highest charge to graduate and graduate professional students.

These recommendations had more to do with narrowing the gap between public and private colleges and universities (a gap which may have influenced the enrollment trends of the past 15 years) than with any carefully formulated policy position on the subject of pricing. Furthermore, it is the simple truth that administrators have turned to increased tuition charges for the stark purpose of obtaining more income to meet rising instructional costs. Most such increases have been a matter of financial expediency, not carefully determined policy.

Part of the pricing problem arises because of the family income status of students, especially undergraduates. Bureau of the Census data published recently in the report of the National Commission on the Financing of Postsecondary Education show that, in public research universities, 72 percent of undergraduate students as of

1972 came from families with incomes larger than $10,000 a year. And of all students from families with annual incomes above $25,000, 64 percent were enrolled in public colleges and universities and only 36 percent in private colleges and universities. In the family income bracket of $15,000 to $25,000 a year, 75 percent of all students were enrolled in public colleges and universities. There is no doubt that large numbers of students from families in the upper half of the income distribution are enrolled in publicly sponsored colleges and universities.

The question is then asked by state legislators and others, Why should low tuition charges be maintained for these students? Apart from the answer of historical tradition developed in the context of a very different kind of economy, a convincing rationale of the appropriate relationship between charges and family income is still to be provided by spokespersons for public higher education. A major argument is that families in the third quartile of family income from $12,000 to $25,000 are finding it expensive to maintain one or more children in public colleges and universities away from home.

On the other hand, it is widely said that tuition charges of $2,000 to $5,000 a year have priced privately sponsored colleges and universities out of the market. Enrollment losses have been blamed upon high tuition charges, and because of a desire to broaden the socioeconomic base of student selection many private colleges and universities have assumed a costly student financial aid burden that has produced growing deficits in current operating accounts.

At present, it should be emphasized again, through tuition charges and auxiliary enterprise charges, students are providing about one third of all the income of colleges and universities. In many individual situations, including almost all private general baccalaureate colleges, the proportion is of course much higher.

A second, but far smaller source of college income is philanthropic giving. Between 1950 and 1974 it appears that the endowment and gift income for current operations in colleges and universities increased from around $200 million to around $2.4 billion. This is a notable advance. Both privately and publicly sponsored colleges and universities have intensified their efforts over the past 25 years to attract philanthropic support, especially from their ever-increasing alumni, and this support has often been critical in meeting various needs. During the period, however, such income fell from 8 percent to 5 percent of total income.

The external problem for higher education is how to attract and keep increased support from the principal sources of philanthropic contributions: alumni, wealthy friends, private foundations, and business corporations. What kinds of information do potential givers desire? What kinds of services by colleges and universities attract interest and then financial support? What kinds of circumstances encourage alumni and others to offer gifts, and what kinds of circumstances repel them? There are no ready answers, but a college or university that wants philanthropic support has to devise some definite responses and hope that experience will prove them to be effective.

It is not enough that administrative officers should seek philanthropic support; faculty and students can and should have a role as well. Involved alumni are likely to be interested in the faculty members under whom they studied, and if alumni are not encouraged or

discouraged by the appearance, behavior, and attitudes of the current generation of students, they are at least curious about these things.

A study of some 861 colleges and universities by the Council for Financial Aid to Education indicated that in 1972-73, the sources of philanthropic support were as follows: nonalumni individuals, 30 percent; alumni, 24 percent; general welfare foundations, 23 percent; business corporations, 14 percent; religious denominations, 4 percent; other sources, 5 percent.

It seems unlikely that any one attitude or interest can be identified as the philanthropic attitude or interest in higher education. Potential givers to colleges and universities undoubtedly have varied attitudes and interests, just like the population as a whole. The task in promoting giving, if that is desired, is to attract money while not alienating persons or groups of varied points of view. There is a similarity here to endeavoring to achieve political consensus in society at large.

It is obvious that higher education in the United States, both public and private, has become so dependent on the support of governments that the attitudes of governments will have a major continuing impact upon the operation of colleges and universities. For instance, the enforcement of governmental affirmative action programs and nondiscrimination policies is based on the threat of a withdrawal of federal government funding. It is generally estimated that 80 percent of all separately budgeted research activities in universities is provided by federal government grants, and undoubtedly a considerable part of the expense of graduate study, especially at the PhD level, is supported out of research grants in both public and private research universities.

Chief executives, legislators, and their staffs tend to ask three particular questions. First, why does it cost so much per student to operate a college or university? Second, why should faculty members receive salaries that support research and public-service outputs in addition to instructional output? Third, why should higher education be supported to educate students in excess of the American labor-market demand for educated talent?

Whatever the answers, they must be reasonable and convincing if chief executives and legislators are to be persuaded to increase their support of colleges and universities. No faculty member or student who wants his or her college or university, public or private, to continue to receive government financing can afford to be indifferent to the kinds of questions listed above that are asked by public officeholders and others. In addition, faculty and student attitudes and behavior do much to determine the attitudes and behavior of governors and presidents, state and federal legislators, and other government officials toward higher education. Faculty and students can logically be indifferent to the attitudes and behavior of governments only if they are willing to forego the benefits of governmental support.

Many other groups in American society—school teachers, farmers, labor unions, business leaders, church leaders—have found it appropriate to develop their own means for influencing political attitudes and legislative votes. Can higher education expect favorable political response on the basis of indifference or hostility to the cultivation of such a development?

Governments, whose support figures so largely in the financing of higher education, now incline toward other priorities and other major interests. Higher education has lost much of its public appeal, or so it is felt. Undoubtedly there are political forces at work slowing down the rate of governmental income growth for higher education, even as there were political forces at work to advance the rate of this income growth 10 and 15 years ago.

It is widely assumed that the income of colleges and universities has been declining overall in recent years, and in some particular instances this may have occurred. But in general this assumption is faulty. The available information suggests rather that the rate of increase in available income has tended to slow down in the past several years. Even this slowdown has not been uniform for states, institutions, or programs.

As colleges and universities have encountered a "new depression" in higher education financing in the past five or six years, a great deal of attention has been paid to what may constitute financial exigency for a particular institution. Each situation, obviously,

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There is an old saying among academics, when speaking of the natural divisions of campus labor, that the administrators "in the front office" should worry about raising money and the faculty should spend it. Ideally, perhaps, that is the way it should be. But there is a direct line of accountability between those who provide funds and how such funds are spent. And beyond that, faculty, in their broader need to share in budgetary decisions, cannot overlook some fundamental facts of life concerning how their institutions gather their income and from precisely what sources.

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must be evaluated according to the circumstances and in good faith. Nonetheless, a condition of financial exigency should not be too difficult to identify and understand. In general, it arises when current operating expenditures of a college or university, or for a particular program or category of related activities, exceeds the available current income for the institution, program, or category.

There may, of course, be some argument about the exact amount of income available for current operations. Should all or part of the endowment fund be expended before the state of financial exigency is held to be at hand? Should funds be shifted to avoid financial exigency in a given purpose or account? These are all good questions that deserve careful review and discussion.

The appropriate institutional response to the need to reduce expenditures may be debatable. Often plant maintenance and other support services are reduced before any attempt is made to cut instructional costs. Should the salaries of administrative and professional staffs be reduced before the salaries of faculty are? These are appropriate questions, too.

Conflict about the definition of financial exigency and about re-

quired cutbacks is most likely to arise when the financial facts of life about the institution have not been fully reported and communicated throughout the academic community. There is no excuse for secrecy in the financing of colleges and universities, enterprises that are fully involved in the performance of a public service in the public interest with public funds.

Higher education as a social institution depends for its income upon governments, philanthropy, and charges. If increases in charges are undesirable, then the other two sources of income must be increased or institutions of higher education will have to learn to live with less income, a very small rate of income growth, or undesirable charges. If more income is wanted, all constituent groups of the academic community will have to be involved in "selling" the need, demonstrating a convincing case that the public interest can be served and preserved only when colleges and universities are prosperous.

6

Understanding Budgets

The institutional budget and finance reports are a college's key operating documents; thus a basic understanding of them is essential for faculty. Not all budget information is equally important, and no institution handles its budget reports precisely as another. Nonetheless, some standardization is now emerging, and common cost and income denominators can be identified. Deciding what questions to ask is critical. These questions, and their answers, provide a broad outline for the financial life of an academic institution.

FEW ACADEMICS NEED REMINDING THAT AN UNDERSTANDing of broad concepts in a field of knowledge hardly constitutes mastery. For better or worse, full comprehension requires mastery of a technical vocabulary as well. Responsible faculty thus owe it both to themselves and their institutions to come to terms not only with the broad concepts of academic economics, but also with the specialized language in which they are presented. In addition, it must be understood that if financial data are equally dreary, they are not of equal significance. Separating the wheat from the chaff is central to a grasp of an institution's finances.

Times, moreover, have changed, and it is increasingly impossible to consider financial matters as distinct from academic policy. One may wish it were otherwise, but that changes the situation not a jot. The scene in the faculty senate is by now all too familiar. In alternately intricate and mundane faculty committee meetings, the larger financial questions may come to focus at any time on discussions about faculty salaries and fringe benefits and workloads, the size and support loads of graduate student enrollments, libraries, offices, telephones, travel, facilities, equipment, and all the other costly academic needs and wants, and the trade-offs that are now inevitable.

These trade-offs have too much to do with too many changes in the professional lives of faculty members to be ignored any longer. Trade-off discussions lead to the need for information and sound

qualitative judgments, and faculty members now need increasing access to the available facts. Many academic professionals, although not all, have learned to go to primary source materials instead of some interested party's interpretation or manipulation of figures. Financial reports and institutional and departmental budget summaries are increasingly in evidence at faculty committee meetings. The resulting curiosity about the strangely confusing contents of these documents and the relationships revealed therein has caused more and more administrations to produce supplemental documents. While these are intended to be responsive to the questions of faculties and others, they almost inevitably generate even more figures in new arrays and aggregations requiring still further interpretations and qualifications. Unfortunately, to make useful judgments, faculty members now have to learn to appreciate and understand some of the tensions between simple financial assertions and complex accounting exhibits, and between the accountability needs of professional auditors and the information needs of academic managers and their multiple constituencies.

Nothing said here is going to solve all these problems. The intent is to offer faculty members advice on what information is significant and useful to them, where in the various documents it is to be found, and how to interpret it. Inevitably the advice has to be general, with

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Financial reports and institutional and departmental budget summaries are increasingly in evidence at faculty committee meetings. The resulting curiosity about the strangely confusing contents of these documents and the relationships revealed therein has caused more and more administrations to produce supplemental documents. Unfortunately, to make useful judgments, faculty members now have to learn to appreciate and understand some of the tensions between simple financial assertions and complex accounting exhibits, and between the accountability needs of professional auditors and the information needs of academic managers and their multiple constituencies.

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a likelihood of inapplicability to specific cases. The financial documents of institutions of higher education tend to be at least as diverse as the institutions themselves. The budgets and financial reports for private institutions, especially those heavily endowed, are notably unlike those for public institutions, which have been shaped extensively by and for legislative bodies.

Centralized institutions allocate their resources and report differently than decentralized ones, some of which have wide variations of practice within a single institution or consortium. Large national research universities have accounting complexities involving cost allocations for research activity that do not occur at all in small liberal arts colleges, either public or private. And if one goes beyond traditional institutions of higher education to the full spectrum of

postsecondary education, there occur many additional variations, each of which may reflect institutional idiosyncrasies and proprietary origins. Few business officers in colleges and universities or statewide systems of any size comprehend all the fiscal facts and interrelationships in their own institutions; and when it comes to making meaningful comparisons with other institutions, they are as prone to error as anyone.

The fact that the words used to describe the financial processes and documents are the same, even though the processes and documents usually are not, often misleads not only the unwary observer but also the experienced analyst. For example, there are several kinds of balance sheets. A change-in-funds statement can be displayed in infinite variations. One might think, "Well, a budget is a budget." But an *item* or *object budget* can be a very different creature from a *program* or *functional budget*, and a *program budget* may be a *performance budget* or only pretend to be one. There are zero-base budget processes and incremental budget processes, and each frequently exists more in the mind of the conceiver than in reality.

Any one concept is seldom entirely consistent in realization. There are planning, information, and control aspects in most budgets, yet even their makers often confuse the assorted purposes. Most important, all budgets are only inexact estimates, sometimes wildly inexact in unpredictable times like these. What actually happens in the course of the budget year is frequently not published at all, except in bits and pieces in the year-end financial reports, and these reports seldom reconcile in any easily recognizable fashion with the budget estimates with which the year began. Frequently, more truth is buried in the campus archives than in the published budget, which is, after all, only a set of predictions before the fact.

Does it then make any sense to try to deal with such treacherous documents? If one hopes to be comprehensive, precise, and systematic, the endeavor is virtually hopeless, not to say useless, at least for those who have less than full time to devote to the effort. But there are ways to go. One can consider the financial questions most frequently asked by faculty members and offer illustrations of ways to look for answers (or at least hints of answers) in the limited and often baffling accountants' documents. And one can consider where not to look and how to test answers to determine which ones are real rather than just appearing so.

Deciding what questions to ask is critical. A faculty member's view of what is important to know is not likely to conform to what governing bodies, either public or private, require in financial reports or budgets, nor to the views of the managers, the students, the parents, or of donors. The faculty member has a unique view of the priorities and responsibilities of the institution, not to mention his or her own personal interests and concerns. There will be time enough to compromise with all the others after the best available answers are determined. Faculty members need to show an honest concern and ask only for information that makes a real difference, however. Otherwise the costs of central administration will go up again and again.

What are those key questions likely to be?

The first and most frequent questions are addressed to the Greek machine of higher education, external income. In the fifties and six-

ties such income sprouted almost on request, sometimes even without solicitation. In the seventies the responses to much more urgent solicitation, whether to governments, foundations, or unorganized philanthropy, have been fewer and highly selective. Old dependencies die hard. Faculty still hope that the money somehow remains out there, that their needs won't have to suffer through highly competitive resource allocations or further escalation of tuitions or student fees, that new programs can be financed without reducing or eliminating present ones, that when financing of research by government goes down somebody else can be found to foot the bill rather than cutting back on research activity.

When this search for an easier way out becomes, for the most part, unproductive, faculty interest turns to those outside funds received and set aside in an earlier, happier time for some rainy day. It is clearly raining now, note the logical inquisitors. But, they are

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quickly told, this looks more like a permanent change in the weather than just a passing shower. Faculty soon learn how dependent the institution has become on the annual income provided by the capital that has been saved. And most come to the conclusion that spending down the alleged reserves only reduces future income when annually higher inflation increments show every sign of becoming a way of life.

If and when faculty members are persuaded that there is little or no hope in drawing from external income, present or past, the next set of questions usually concerns the prices of services and the charges levied, predominantly tuition. Can students be charged more? Can financial aid costs be held down by the increased use of loans? Should there be differential tuitions to recognize that some programs cost more than others? Should athletics be forced to pay their own way? Are lab, library, or health fees as high as they can or ought to be?

If a given institution's problems are still not resolved at this stage of the discussion (and they almost never are), the questions turn to the expense side and begin to come closer and closer to the faculty, first its peripheral and ultimately its central concerns. There is one area of expense that the faculty almost always regards as eminently available for reduction: central administration and services. What does that self-serving bureaucracy really do? Why are its costs so

high and its services so inadequate? Surely there can be savings there! The faculty is sometimes right, but often wrong. Usually savings can and should be made in the central administration, although in the last few years many institutions have considerably tightened up administrative costs. In some cases faculty have seen the deterioration of services and substantial indirect costs of under-administration. This is especially true where much time and attention (which both cost money) have been diverted to paper pushing because of urgent and enforceable demands from federal, state, and local governments, usually concerning a maze of affirmative action and environmental impact requirements or demonstrating to legislative committees that a credit hour cost is not an artificial figment of academic imaginations.

While few colleges have spent the $3 million estimated by the huge University of California system in meeting the data requirements of affirmative action alone, all institutions have spent a lot on data collection and report formats in this area—not to mention those

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Why should a faculty member care about [collecting outstanding bills]? It may mean pushing students and parents harder for payment, and that has implications everyone ought to consider. Faculty members who are unsympathetic to rigorous collection methods, including the withholding of academic privileges from students with unpaid bills, should understand that laxness here may mean less money for the educational enterprise as a whole, not this year perhaps, but in a future that always arrives before it is expected.

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required by new legislation on pensions, occupational safety, financial aid, pollution aspects of commuting faculty and students, and countless other objects of recent governmental concern. (The editors of *Change* recently estimated the total annual cost for all colleges and universities at $2 billion.)

The final group of major questions concerning the educational and research process is originally posed not so early or so often by faculty members (except perhaps by department and committee chairpersons) as by all the other constituencies, from governments to trustees to administration to students. But faculty members themselves now are looking for answers in this area in order to respond to the questions and frequently mistaken or uninformed notions of others. It is surprising how difficult it can be to disprove wrong notions to people who don't know very much about a subject to begin with. How large should the faculty be in relation to the volumes of its teaching, research, public service, and committee responsibilities? How should its size be divided between tenured and nontenured, among ranks, among senior and junior faculty members, and among graduate student teaching and research fellows? What are appropriate faculty salaries with respect to the cost of living and the scales of similar institutions?

What about fringe benefits in individual institutions in relation to the teaching and allied professions as a whole—retirement, health, life insurance, disability, higher education for dependents, sabbaticals, travel, publication? What about allowing time for outside consulting? What about laboratories, equipment, libraries, and graduate-student support for research and the allocation of their costs; telephones and office and clerical costs; the costs of convenient classrooms and convenient schedules and the implicit capital and operating costs built into low-space utilization rates in a nine-month year? Although faculty members usually have not volunteered these questions, they are pressing for data that will enable them to answer questions before others do so.

Where can the answers to all these questions be found? In no single place, of course, but here are some suggestions to start the search:

The financial report (sometimes known as the treasurer's report), which gives the largest view of the flow of income and expenses, tends to be better for income than for expense questions because the categories used are easier to define. There will always be difficulties in interpreting these reports because the greatest differences in the patterns of institutional funding and expenditure make standardized categories potentially misleading.

Currently there is a promising, if somewhat confusing, movement toward improvement and standardization of the principal exhibits in financial reports. The most significant such effort is sponsored by the Department of Health, Education and Welfare, and is being carried out by the National Center for Higher Education Management Systems (NCHEMS) in consultation with the National Association of College and University Business Officers and the American Institute of Certified Public Accountants.

The movement has been made necessary by an increasing number of poorly informed, often erroneous commentaries, typified by a well-publicized effort a few years ago by two business-school faculty members at Cornell. They outlined some of the problems, some accurately, others mistakenly, and offered half-considered alternatives that could have led to chaos. Some of their appropriate criticisms have been met by the NCHEMS effort, while others have been dismissed because they were not supported by the facts.

An example of the reforms may be useful. Some institutions reported until this year only the gift income that was actually spent in the year received, calling the amount "gift income availed of." The new method will report everything received, transfer out amounts reserved for specific purposes in future years, and record the amount spent in the year reported.

The NCHEMS Higher Education Finance Manual provides a model set of exhibits, some of which are used to illustrate this chapter. The manual, incidentally, should prove a useful document for faculty members.

The manual's balance sheet exhibits, two of which are given here, were taken from another highly useful book on college and university audits, first published for the American Institute of Certified Public Accountants by the Committee on College and University Accounting and Auditing.

Our first exhibit (1a) is the balance sheet. The most important reform here is the showing of prior-year figures directly beside the

figures of the year being reported. Trends, not isolated figures, are at the heart of understanding academic financing, and two years are always better than one. Basically, the balance sheet shows how the accountants reconcile the assets and the liabilities, but it also offers other information.

Exhibit 1b is an interesting example of fund accounting, in which resources for various purposes are classified into funds in accordance with activities and objectives specified. Within each fund group, fund balances restricted by outside sources (such as certain gift endowments) are separated from unrestricted funds, whose allocation is the responsibility of the governing board.

The exhibits also demonstrate the complexity of fund accounting. They show that the uses of many assets are sharply restricted to handling certain liabilities—that the balance sheet is not only a matter of making two bottom lines come out the same, but also sets forth

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There is much erroneous faculty lore about the investment and distribution of income from endowments and the various kinds of restrictions on them. The trustees of the institution, making decisions that affect the balance between present and future, tend to be future-oriented, while faculty tend to be more present-oriented. The striking of balances between present and future and between opportunity and risk is a legitimate source of tension.

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fund groups, each of which also must balance without transfers that are illegal or breaches of understandings with donors or other fund sources. The fact that funds are not transferred in some cases does not always mean that they cannot be, and while the exhibits and footnotes often explain the transfers that are made, it takes further inquiry to determine which of those that could have been made were not, and why.

What does the balance sheet tell us about the mythical educational institution in Exhibit 1a? The current fund has more unrestricted cash than in the prior year, unrestricted investments are up, and so are the unpaid bills owed to the institution. Inventories and prepaid expenses are up slightly. The increase in unrestricted liabilities is less than the increase in assets, and the unrestricted fund—perhaps the key figure—is up almost 50 percent. Overall the picture looks unusually healthy. There appears, however, a warning signal that unless there is a special explanation, someone should work harder at collecting outstanding bills.

Why should a faculty member care about this last item? It may mean pushing students and parents harder for payment, and that has implications everyone ought to consider. Faculty members who are unsympathetic to rigorous collection methods, including the withholding of academic privileges from students with unpaid bills, should understand that laxness here may mean less money for the educational enterprise as a whole, not this year perhaps, but in a

future that always arrives before it is expected.

The current fund's restricted accounts do not seem to pose major problems for this mythical institution, either. However, a figure to watch in many real institutions is the restricted fund balance. If it is growing too rapidly, the managers may not be working hard or imaginatively enough to use unneeded restricted money to meet the central educational purposes of an institution instead of draining more precious unrestricted funds. These unrestricted balances sometimes conceal "cookie jars" that ought to be looked at in broader terms than the department chairpersons or others who administer them can or like to do. If they are growing while other balances are declining, an inquiry is more than justified.

The endowment fund situation in the exhibit is interesting, although not altogether revealing. By the patterns of the seventies, either this is a fortunate institution or this is one of the infrequent good years. The endowment is up 15 percent (irrespective of the distribution of annual income, which is not shown). In recent years, an endowment is as likely to have been down as up. Again, unlike the situation in this case, endowment and similar fund balances that do not have restrictions against use of capital (listed here as quasi-endowment unrestricted) have often been spent to meet operating deficits, reducing the capital and future annual income.

There is much erroneous faculty lore about the investment and distribution of income from endowments and the various kinds of restrictions on them. The trustees of the institution, making decisions that affect the balance between present and future, tend to be future-oriented, while faculty tend to be more present-oriented. The striking of balances between present and future and between opportunity and risk is a legitimate source of tension, even conflict, but the information in the balance sheet is not adequate for either party to this dispute, and information for the purposes of that argument has to be sought in another document yet to be discussed.

There are situations in which spending capital gains may be appropriate, but they are fewer than most faculty think. In most endowed institutions, there were substantial capital gains from stock investments in 1970-71 and 1971-72, but these did not go much beyond the capital losses of 1969-70 and were more than wiped out by the market adversities of 1972-73 and 1973-74. Some who spent their gains freely are still in trouble today even though the 1976 market has bounced back because they had fewer holdings to benefit from the bounce. The purchasing power of their income from the portfolio is also down permanently. It must be remembered that it is not the faculty but the trustees who have the legal responsibility for such matters and can be held accountable. At the same time, the trustees have to remember that there are also accountabilities of stewardship other than financial ones. The absolutely safest financial operation would have no students, no faculty, and no plant. With no obligations, no activity would be threatened, not even by total loss of the investment portfolio.

Overall this institution seems to be simply too healthy to be very interesting—or very typical currently. Its balances are growing modestly, and one could guess its enrollments are too. Its indebtedness is going down, its plant is not growing much (an especially healthy sign in the seventies), and its library collection does not appear to be suffering.

Exhibit 1a

Balance Sheet

June 30, 19____

with comparative figures at June 30, 19____

Assets

Current Funds

	Current Year	Prior Year
Unrestricted		
Cash	$ 210,000	$ 110,000
Investments	450,000	360,000
Accounts receivable, less allowance of $18,000 both years	228,000	175,000
Inventories, at lower of cost (first-in, first-out basis) or market	90,000	80,000
Prepaid expenses and deferred charges	28,000	20,000
Total unrestricted	1,006,000	745,000
Restricted		
Cash	145,000	101,000
Investments	175,000	165,000
Accounts receivable, less allowance of $8,000 both years	68,000	160,000
Unbilled charges	72,000	——
Total restricted	460,000	426,000
Total current funds	1,466,000	1,171,000

Loan Funds

Cash	30,000	20,000
Investments	100,000	100,000
Loans to students, faculty, and staff, less allowance of $10,000 current year and $9,000 prior year	550,000	382,000
Due from unrestricted funds	3,000	——
Total loan funds	683,000	502,000

Endowment and Similar Funds

Cash	100,000	101,000
Investments	13,900,000	11,800,000
Total endowment and similar funds	14,000,000	11,901,000

From *College and University Business Administration*, 2nd rev. ed. (Washington, D.C.: National Association of College and University Business Officers, 1974).

Liabilities and Fund Balances

Current Funds

	Current Year	Prior Year
Unrestricted		
Accounts payable	$ 125,000	$ 100,000
Accrued liabilities	20,000	15,000
Students' deposits	30,000	35,000
Due to other funds	158,000	120,000
Deferred credits	30,000	20,000
Fund balance	643,000	455,000
Total unrestricted	1,006,000	745,000
Restricted		
Accounts payable	14,000	5,000
Fund balances	446,000	421,000
Total restricted	460,000	426,000
Total current funds	1,466,000	1,171,000

Loan Funds

Fund balances		
U.S. government grants refundable	50,000	33,000
University funds		
Restricted	483,000	369,000
Unrestricted	150,000	100,000
Total loan funds	683,000	502,000

Endowment and Similar Funds

Fund balances		
Endowment	7,800,000	6,740,000
Term endowment	3,840,000	3,420,000
Quasi-endowment—unrestricted	1,000,000	800,000
Quasi-endowment—restricted	1,360,000	941,000
Total endowment and similar funds	14,000,000	11,901,000

(Continued)

Exhibit 1a (continued)

Assets

Annuity and Life Income Funds		
Annuity funds		
Cash	$ 55,000	$ 45,000
Investments	3,260,000	3,010,000
Total annuity funds	3,315,000	3,055,000
Life income funds		
Cash	15,000	15,000
Investments	2,045,000	1,740,000
Total life income funds	2,060,000	1,755,000
Total annuity and life income funds	5,375,000	4,810,000
Plant Funds		
Unexpended		
Cash	275,000	410,000
Investments	1,285,000	1,590,000
Due from unrestricted current funds	150,000	120,000
Total unexpended	1,710,000	2,120,000
Renewals and replacements		
Cash	5,000	4,000
Investments	150,000	286,000
Deposits with trustees	100,000	90,000
Due from unrestricted current funds	5,000	—
Total renewals and replacements	260,000	380,000
Retirement of indebtedness		
Cash	50,000	40,000
Deposits with trustees	250,000	253,000
Total retirement of indebtedness	300,000	293,000
Investment in plant		
Land	500,000	500,000
Land improvements	1,000,000	1,110,000
Buildings	25,000,000	24,060,000
Equipment	15,000,000	14,200,000
Library books	100,000	80,000
Total investment in plant	41,600,000	39,950,000
Total plant funds	43,870,000	42,743,000
Agency Funds		
Cash	50,000	70,000
Investments	60,000	20,000
Total agency funds	110,000	90,000

Liabilities and Fund Balances

Annuity and Life Income Funds		
Annuity funds		
Annuities payable	$ 2,150,000	$ 2,300,000
Fund balances	1,165,000	755,000
Total annuity funds	3,315,000	3,055,000
Life income funds		
Income payable	5,000	5,000
Fund balances	2,055,000	1,750,000
Total life income funds	2,060,000	1,755,000
Total annuity and life income funds	5,375,000	4,810,000
Plant Funds		
Unexpended		
Accounts payable	10,000	——
Notes payable	100,000	——
Bonds payable	400,000	——
Fund balances		
Restricted	1,000,000	1,860,000
Unrestricted	200,000	260,000
Total unexpended	1,710,000	2,120,000
Renewals and replacements		
Fund balances		
Restricted	25,000	180,000
Unrestricted	235,000	200,000
Total renewals and replacements	260,000	380,000
Retirement of indebtedness		
Fund balances		
Restricted	185,000	125,000
Unrestricted	115,000	168,000
Total retirement of indebtedness	300,000	293,000
Investment in plant		
Notes payable	790,000	810,000
Bonds payable	2,200,000	2,400,000
Mortgages payable	400,000	200,000
Net investment in plant	38,210,000	36,540,000
Total investment in plant	41,600,000	39,950,000
Total plant funds	43,870,000	42,743,000
Agency Funds		
Deposits held in custody for others	110,000	90,000
Total agency funds	110,000	90,000

Exhibit 1b

Statement of Current Funds Revenues,

Year Ended June 30, 19____

Revenues

Tuition and fees
Federal appropriations
State appropriations
Local appropriations
Federal grants and contracts
State grants and contracts
Local grants and contracts
Private gifts, grants, and contracts
Endowment income
Sales and services of educational activities
Sales and services of auxiliary enterprises
Expired term endowment
Other sources (if any)
Total current revenues

Expenditures and mandatory transfers

Educational and general
Instruction
Research
Public service
Academic support
Student services
Institutional support
Operation and maintenance of plant
Scholarships and fellowships
Educational and general expenditures
Mandatory transfers for:
Principal and interest
Renewals and replacements
Loan fund matching grant
Total educational and general

Expenditures, and Other Changes

Unrestricted	Current Year Restricted	Total	Prior Year Total
$2,600,000		$2,600,000	$2,300,000
500,000		500,000	500,000
700,000		700,000	700,000
100,000		100,000	100,000
20,000	$ 375,000	395,000	350,000
10,000	25,000	35,000	200,000
5,000	25,000	30,000	45,000
850,000	380,000	1,230,000	1,190,000
325,000	209,000	534,000	500,000
190,000		190,000	195,000
2,200,000		2,200,000	2,100,000
40,000		40,000	
7,540,000	1,014,000	8,554,000	8,180,000
2,960,000	489,000	3,449,000	3,300,000
100,000	400,000	500,000	650,000
130,000	25,000	155,000	175,000
250,000		250,000	225,000
200,000		200,000	195,000
450,000		450,000	445,000
220,000		220,000	200,000
90,000	100,000	190,000	180,000
4,400,000	1,014,000	5,414,000	5,370,000
90,000		90,000	50,000
100,000		100,000	80,000
2,000		2,000	
4,592,000	1,014,000	5,606,000	5,500,000

(Continued)

Exhibit 1b (continued)

Expenditures and mandatory transfers (cont'd)

Auxiliary enterprises
- Expenditures
- Mandatory transfers for:
  - Principal and interest
  - Renewals and replacements
  - Total auxiliary enterprises
    - Total expenditures and mandatory transfers

Other transfers and additions/(deductions)

- Excess of restricted receipts over transfers to revenues
- Refunded to grantors
- Unrestricted gifts allocated to other funds
- Portion of quasi-endowment gains appropriated
- Net increase in fund balances

Current Year			Prior
Unrestricted	Restricted	Total	Year Total
1,830,000		1,830,000	1,730,000
250,000		250,000	250,000
70,000		70,000	70,000
2,150,000		2,150,000	2,050,000
6,742,000	1,014,000	7,756,000	7,550,000
	45,000	45,000	40,000
	(20,000)	(20,000)	
(650,000)		(650,000)	(510,000)
40,000		40,000	
188,000	25,000	213,000	160,000

Balance sheets are frequently more helpful when used in conjunction with other fiscal reports or knowledge. The single most important exhibit overall in a typical financial report is the statement of changes in funds. Exhibit 1b, which works directly with the balance sheet, shows flows in and out (rather than balances) and monitors the sources and uses of funds and some of the relationships involved. It reveals overall dependencies on certain sources of income and the greater dependencies on some activities compared with others. Accidents of outside interest, legislative or private, often tend to make some marginal activities less sensitive to economic vicissitudes than the heart of an educational enterprise, and this can most often be seen in the changes in funds.

Looking at another exhibit of a mythical enterprise (Exhibit 2), a changes-in-funds statement in conventional matrix format, one can see the principal limitation immediately: It does not give prior-year figures and thus is less informative about the year-to-year pattern. However, it is much more informative for internal analysis of what kind of money is used for what and where some of the trade-offs may be. For instance, students can see instantly that since they pay only $2,600,000 in tuition and fees, their educational experience, costing $5,414,000, is being heavily subsidized, partly by a state appropriation of $1,300,000, partly by private funds of $850,000 not restricted to specific other purposes, and partly by another $549,000 in investment income. (Some of these funds go into activities other than the direct educational experience—nonsponsored research, for instance—but given the apparent size and character of this mythical institution, it seems likely that virtually all this money, if well spent, subsidizes their experience directly or indirectly.)

Faculty members might conclude from the same figures, in a situation in which more money is needed for more or better-paid faculty, that since there are surplus loan funds for students, tuition could increase at a more rapid rate. (We do not, of course, know how rapidly it has been increasing.) Given the general situation in this case, a

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Whatever the kind of budget, it must be placed in the context of a number of years and the process of change and refinement of format and approach from year to year that almost every institutional budget has been going through recently. There are periodic or cyclical distortions, such as a program or publication that occurs only every three years, and noncyclical changes in classification and aggregation. The only way to spot these changes in a budget is to look at a series of annual budgets together.

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surplus of $188,000 in unrestricted funds for the year, and a transfer for the same year of $550,000 of unrestricted funds into designated endowment (where it is theoretically reachable either for unrestricted income or principal), there should be no extra pressure

Exhibit 2

STATEMENT OF CHANGES IN FUND BALANCES (Figures in thousands)			Current Funds		Loan Funds	Endowment & Similar Funds	Annuity & Life Income Funds	Plant Funds				Total
			Unrestricted	Restricted				Unexpended	Renewal & Replacement	Retire. of Indebtedness	Investment in Plant	
Additions	Tuition & Fees		2,600									2,600
	Governmental Appropriations	Local										
		State	1,300					50				1,350
		Federal										
	Governmental Grants & Contracts	Local										
		State										
		Federal	35	500								535
	Private Gifts, Grants, & Contracts		850	370	100	1,500	800	115		65	15	3,815
	Investment Income	Unrestricted	325									325
		Restricted		224	12	10		5	5	5		261
	Net Realized Gains on Sale of Investments	Unrestricted				100						100
		Restricted			4	50		10	5	5		74
	Sales & Services of Auxiliary Enterprises		2,200									2,200
	Other (Itemize if material)	Additions to Plant Facilities									1,560	1,560
		Retirement of Indebtedness									220	220
		Other	230		25	10		50		3		318
Total Additions			7,540	1,094	141	1,670	800	230	10	78	1,795	13,357
Deductions	Current Fund Expenditures	Educational & General (Excluding Transfers)	4,400	1,014								5,414
		Noneducational & General (Including Auxiliary Ent.)	1,830									1,830
	Loan Cancellations & Write-offs				1							1
	Expended for Plant Facilities							1,200	300			1,500
	Debt Service	Principal								220		220
		Interest								190		190
	Other (Itemize if material)	Expired Term Endowment				90						90
		Disposal of Plant Facilities									115	115
		Other		55	11		85			1		152
Total Deductions			6,230	1,069	12	90	85	1,200	300	411	115	9,512
Transfers	Mandatory Transfers Into/(Out of)	Debt Service	(340)							340		
		Renewal & Replacement	(170)						170			
		Loan Fund Matching Grant	(2)		2							
		Other (Itemize if material)										
	Nonmandatory Transfers Into/(Out of)											
		Distribution of Capital Gains	40			(40)						
		Designation of Unres. Funds	(650)		50	550		50				
		Other (Itemize if material)										
Total Transfers Into/(Out of)			(1,122)		52	510		50	170	340		
Net Increase/(Decrease) for the Year			188	25	181	2,090	715	(920)	(120)	7	1,670	3,845
Fund Balance - Beginning of Year			455	421	502	11,901	2,505	2,120	380	293	36,540	56,117
Fund Balance - End of Year			643	446	683	14,000	3,220	1,200	260	300	38,210	58,962

on tuition. Obviously the transfer to endowment is one of those present-future decisions that might be part of any broad financial discussion with the faculty. (There are, it must be added, other relevant factors not recorded in this exhibit, notably the need to increase an endowment at the rate of inflation if it is to do the same job next year that it is doing this year.)

The NCHEMS manual also offers suggestions for other more detailed exhibits on sources and uses of funds, particularly current operating funds. To supplement all these basic reports various institutions use other displays, many involving not only accounting but also analytical efforts; but these supplementary exhibits are too various to discuss here with any specificity. While they sometimes generate useful information for faculty members, more often they simply lead to other efforts to get more useful data. Many are designed to illustrate major trends and concerns, such as percentages of increase and decrease in income and expense categories over a period of years.

Used out of context without a careful review of assumptions and qualifications, particularly when trends appear to be indicated, they can lead to totally erroneous conclusions. The best course is to consult not only the authors of such displays but other more objective analysts to make sure of their meaning. A jump in the payroll may mean more employees or higher pay, but usually a concealed mixture of both. An increase in the faculty payroll greater than that for other professionals may mean merely that librarians are being included in the faculty payroll for the first time. It is better to look for questions to ask in examining these exhibits and schedules than for conclusions to draw.

The other published information for faculty members is in whatever budgets may be available. There is never likely to be sufficient standardization of the budget documents or processes of higher education to permit a simplistic discussion of the subject, but some general observations may be helpful.

First, it is safer and easier to read a departmental budget than an institutional budget, and it is even safer and easier to read a subdepartmental budget. The higher the scale of aggregation, the more concealed the significant specific decisions and transactions. Aggregation is necessary to understand the whole of an institution and develop or comprehend an overall strategy, but the oldest friend of accuracy at high levels of aggregation, compensating error, is also the most unremitting foe of good analysis and understanding of the specifics in a budget.

Second, there are two basic ways to construct a budget: by object categories of income and expense by organizational unit, or by allocation of all income and expense to functional programs. There are infinite variations and combinations, but generally, the smaller, the simpler, and the more precise the programs involved, the easier and more useful it is to construct a program or functional budget. On the other hand, the larger, the more complex, and the more overlapping the activity, the more likely it is that traditional budgets using object categories of expense and income by organizational unit will be needed for both analysis and control. Theoretically one should be able to do a program budget for even the most complicated institution, but it would necessarily depend on a host of more or less rough assumptions about how faculty salaries are divided among func-

tions, where research or instruction or public service or consulting time begins or ends, how laboratory and other facility costs are allocated among specific functions, and other subjects about which precisely quantified measurements cannot be made without spending inordinate amounts of money...and sometimes not even then.

NCHEMS has created a program expease budget for a nonexistent and not very complex institution it calls MICRO University II. Exhibit 3 shows MICRO U's institutional summary and the NCHEMS approach to program components. Both are derived by formulas that allocate all expenses, accumulated or predicted, through conventional accounting and analysis. For faculty members concerned with the here and now, the program approach and its assumptions, whether written into model simulation formulas or not, will be tough and frequently unprofitable going. So will the conventional budget of any reasonably complex institution, but a conventional budget will at least be directly verifiable and reconcilable without the intervention of somebody else's usually unproven assumptions. A faculty member in any institution of any size or complexity would do far better with a traditional budget than with the NCHEMS variety, which really is shaped to meet the demands of state budget officers and legislators rather than informing about institutional trade-offs.

Whatever the kind of budget, it must be placed in the context of a number of years and the process of change and refinement of format and approach from year to year that almost every institutional budget has been going through recently. There are periodic or cyclical distortions, such as a program or publication that occurs only every three years, and noncyclical changes in classification and aggregation. Every time a category called "other" gets up to a sizeable percentage of the whole, for instance, it needs to be split out and handled separately. In that case "other" is not decreasing, it is being redefined. In the energy crunch, the dollars in "other" have generally taken a real downturn, but have been more than compensated for by a new, separate, and ominous category for utilities. The only way to spot these changes in a budget is to look at a series of annual budgets together. One hears a lot about zero-base budgets, and they can be useful analytically when an institution faces disaster or revamping, but most useful budget discussions concentrate on the margins, the increments, and decrements.

None of these published documents and very few of their supporting workpapers really illuminate any but the largest trade-offs and relationships. They do, however, indicate the broad outline of the financial life of the institution and the play of the various sources of income on expense patterns. Their real function is to give the interested faculty member a general notion of where the institution stands financially and whither it is tending. Somewhat less reliably, the documents indicate the overall financial strategy of the trustees and administration and the relative allocations to the various uses. Finally, one finds in the documents clues about less cosmic relationships and trade-offs, clues that can be terribly misleading but at least open up the questions involved. Those questions will only be answered satisfactorily by continuing communication between faculty members and administrators on the basis of earned trust on both sides. It is the unequivocal conviction of *Change*'s Panel on Academic Economics that this circumstance of trust lies at the center of a fruitful budget collaboration by the major campus constituencies.

Exhibit 3

ITEM = EDGI DETAIL DATA — M I L W O U N I V E R S I T Y I I
BASE = 1993 — RESOURCE REQUIREMENTS PREDICTION MODEL

PROGRAM BUDGET	COST PER STUDENT

INSTRUCTIONAL PROGRAM AND STUDENT LEVEL	COST PER STUDENT	NUMBER OF STUDENTS	PERCENT PROGRAM STUDENTS	PERCENT TOTAL STUDENTS	PROGRAM COST	PERCENT PROGRAM BUDGET	PERCENT INSTR BUDGET
(00001) HISTORY							
1LDI LOWER DIVISION	910.42	78.00	39.57	5.56	67,908.08	32.20	3.76
1UDI UPPER DIVISION	1,198.33	47.00	46.52	6.51	99,606.91	47.58	5.53
1GDI GRAD DIVISION	1,628.30	26.00	13.90	1.95	42,329.00	20.22	2.35
(00) ALL AVG./TOTALS	1,119.00	147.00	100.00	14.06	209,844.99	100.00	11.63
(00002) ENGLISH							
1LDI LOWER DIVISION	903.63	58.00	35.71	4.14	52,237.70	29.70	2.90
1UDI UPPER DIVISION	1,136.33	37.00	46.73	5.76	85,187.41	48.44	4.73
1GDI GRAD DIVISION	1,671.53	23.00	17.56	1.72	38,445.19	21.86	2.14
(00) ALL AVG./TOTALS	1,113.10	158.00	100.00	11.63	175,870.30	100.00	9.77
(00003) BIOLOGY							
1LDI LOWER DIVISION	1,191.67	47.00	39.62	3.14	50,350.14	23.53	2.78
1UDI UPPER DIVISION	2,072.45	60.00	45.28	3.59	99,477.60	46.77	5.53
1GDI GRAD DIVISION	3,947.98	19.00	15.09	1.22	63,167.68	29.70	3.51
(00) ALL AVG./TOTALS	2,006.56	106.00	100.00	7.93	212,695.42	100.00	11.82
(00004) CHEMISTRY							
1LDI LOWER DIVISION	1,175.60	32.00	45.07	2.49	37,625.60	27.85	2.09
1UDI UPPER DIVISION	2,999.06	39.00	54.93	2.92	97,463.34	72.15	5.41
(00) ALL AVG./TOTALS	1,902.66	71.00	100.00	5.31	135,088.94	100.00	7.50
(00005) PHYSICS							
1LDI LOWER DIVISION	1,233.97	21.00	52.50	1.57	25,913.37	33.87	1.44
1UDI UPPER DIVISION	2,668.14	19.00	47.50	1.42	50,599.66	66.13	2.81
(00) ALL AVG./TOTALS	1,912.03	40.00	100.00	2.99	76,513.03	100.00	4.25

(00036)	ELEMENTARY EDUC.							
	(LO) LOWER DIVISION	999.62	112.00	34.89	6.38	107,477.44	28.63	5.97
	(UD) UPPER DIVISION	1,184.43	125.00	38.94	9.36	145,555.75	38.77	8.09
	(GD) GRAD DIVISION	1,457.32	84.00	26.17	6.29	122,389.68	32.60	6.80
	(**) WTD. AVG./TOTALS	1,199.54	321.00	100.00	24.03	375,420.87	100.00	20.86
(00037)	BUSINESS							
	(LO) LOWER DIVISION	957.27	69.00	33.16	4.79	61,265.28	22.99	3.40
	(UD) UPPER DIVISION	1,401.83	77.00	36.90	5.76	107,940.91	40.51	6.00
	(GD) GRAD DIVISION	1,872.65	52.00	26.94	3.89	97,273.80	36.50	5.40
	(**) WTD. AVG./TOTALS	1,380.73	198.00	100.00	14.85	266,479.99	100.00	14.80
(00038)	UNDECIDED SCI.							
	(LO) LOWER DIVISION	1,167.78	74.00	100.00	5.54	86,415.72	100.00	4.80
	(**) WTD. AVG./TOTALS	1,167.78	74.00	100.00	5.54	86,415.72	100.00	4.80
(00039)	UNDECIDED HUM.							
	(LO) LOWER DIVISION	911.26	53.00	100.00	3.97	48,296.78	100.00	2.68
	(**) WTD. AVG./TOTALS	911.26	53.00	100.00	3.97	48,296.78	100.00	2.68
(00040)	SECONDARY EDUC.							
	(GD) GRAD DIVISION	1,640.56	110.00	100.00	8.23	180,472.60	100.00	10.03
	(**) WTD. AVG./TOTALS	1,640.56	110.00	100.00	8.23	180,472.60	100.00	10.03
(00111)	SPECIAL STUDENTS							
	(UD) UPPER DIVISION	1,127.50	10.00	43.48	.75	11,270.60	34.96	.63
	(GD) GRAD DIVISION	1,613.26	13.00	56.52	.97	20,972.38	65.04	1.17
	(**) WTD. AVG./TOTALS	1,401.47	23.00	100.00	1.72	32,242.98	100.00	1.79
(****)	INSTITUTIONAL SUMMARY							
	(LO) LOWER DIVISION	1,012.62	530.00		39.67	536,690.11		29.81
	(UD) UPPER DIVISION	1,446.27	482.00		36.08	697,102.18		38.73
	(GD) GRAD DIVISION	1,743.98	324.00		24.25	565,049.33		31.39
	(**) WTD. AVG./TOTALS	1,346.99	1,336.00		100.00	1,798,841.62		99.93

(Continued)

Exhibit 3 (continued)

ITER = (DDI DEFAULT DATA
BASE = (**)

MICRO UNIVERSITY II
RESOURCE REQUIREMENTS PREDICTIVE MODEL

INSTITUTIONAL SUMMARY

ACTIVITY COSTS

ACTIVITY NAME	ACTIVITY COST	ESTIMATING EQUATION COEFFICIENTS: CONSTANT	ENROLL.	FACULTY	STAFF	HOURS	FAC-$	STAFF-$	BUDGET
1.00 INSTRUCTION PGM	1,800,078	1,800,078							
1.10 GENERAL ACADEMIC	95,663	82,303	10.00						
1.40 EXTENSION INST.									
SUB-TOTAL	1,895,741								
2.00 ORGANIZED RSRCH									
2.10 INST.+ RSRCH CTR	60,194	34,032		300.00					
2.20 IND/PROJ RSRCH	86,490	44,220		500.00					
SUB-TOTAL	146,684								
3.00 PUBLIC SERVICE	12,967	12,122		10.00					
3.10 CONTINUING EDUC.	8,882	4,655		50.00					
3.20 COMMUNITY SERV.									
SUB-TOTAL	21,849								
4.00 ACADEMIC SUPPORT									
4.10 LIBRARIES	233,794	74,832	100.00	300.00					
4.20 MUSEUM-GALLERY	34,914	28,015	2.00	50.00					
4.40 COMPUTING SUPP.	75,458	53,644	10.00	100.00					
SUB-TOTAL	344,166								
5.00 STUDENT SERVICE	440,250	284,380	100.00	500.00					
5.10 SOC-CUL DEVELOP.	60,100	60,100							
5.20 SUPPL. EDUC. SER	47,560	47,560							
5.30 COUNSELING/GUID.	32,290	32,290							
5.40 FINANCIAL AID	799,910	666,310	100.00						
5.50 STUDENT SUPP									
SUB-TOTAL	1,380,110								
6.00 INST. SUPPORT	168,878	147,064	10.00	100.00					
6.10 EXECUTIVE MGT.	52,549	46,986	1.00	50.00					
6.20 FINANCIAL OPER.	244,222	207,712	21.00	100.00					
6.30 GEN. ADMIN. SERV	103,615	85,559	10.00	55.55					
6.40 LOGISTICAL SERV.	283,889	271,428		100.00		.210			
6.50 PHYS. PLANT OPER	75,357	73,176	1.00	10.00					
6.70 COMMUNITY REL.									
SUB-TOTAL	928,510								
*** TOTAL ***	4,717,060								

7

Who Makes What Decisions?

Conflicting organizational pressures in academic institutions must be resolved differently than those that arise in organizations based on industrial and hierarchical models. Nor is the industrial union model adequate for academic institutions. With or without collective bargaining, the faculty's best hope in helping determine its future lies in the principle of shared authority.

THE MODERN AMERICAN UNIVERSITY, AND PARTICULARLY the large state-supported institution, is a formidable bureaucracy with all the advantages of organizational size—as well as the curse of bigness. In its pristine form, as B. Alden Thresher of MIT has noted, it is a pyramidal structure with sharply defined limits of authority and responsibility. Power flows from the top down. Information may flow from the bottom up, but seldom policy, initiative, or wisdom. The modern university was built on the conventional notion that students are there to learn, professors to teach, and administrators to govern. Let no one cross these jurisdictional lines.

The university president sees himself—and likes to see himself—as the incarnation of the institution. Constrained to deal with multiple constituencies within and without the university, he must be the man for all seasons who alone can articulate the central values of the institution he represents. He must, as Clark Kerr observed, be a "friend of the students, a colleague to the faculty, a good fellow with the alumni, a sound administrator with the trustees, a good speaker with the public, an astute bargainer with the foundations and the federal agencies, a politician with the state legislature, a friend of industry, labor, and agriculture, a persuasive diplomat with donors, a champion of education generally, a supporter of the professions (particularly law and medicine), a spokesman to the press, a scholar in his own right, a public servant at the state and national levels, a devotee of opera and football equally, a

decent human being, a good husband and father, an active member of a church." He must even enjoy "traveling in airplanes, eating his meals in public, and attending public ceremonies."

Given the conflicting pressures exerted by these multiple constituencies, the president feels that he alone, with the assistance of the officers of the central administration, can make the compromises, adjustments, and accommodations necessary to accomplish the overall institutional goals of the university. Discussion, consultation, and debate may be helpful—faculty advisory bodies do have a role—but the authority and responsibility for final decisions must always rest with the central administration.

Thus the hierarchical model is not uncongenial to the administration. Furthermore, the faculty does not necessarily object. Many professors are perfectly content to let the administration—the "money men"—worry about funding the university so long as the faculty are left free to pursue their teaching and research. The typical professor is concerned not with where the money comes from, but with getting his share of it. A professor's loyalty, if any, is not so much to his institution as to his profession. In the final analysis, the professor does not identify with the university as an organization whose survival, development, and growth have a significant effect on his or her personal success as a scholar, but rather regards it as little more than a convenient, and possibly transient, infrastructure for professional pursuits.

This hierarchical model—whatever its worth in the past—came under increasing criticism and attack in the late 1960s, when faculties, like other constituencies in the university community, became reluctant to let the administration govern while they confined themselves to instruction. They began to voice demands for increased

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participation in governance, for "a piece of the action." This became more pronounced in the early 1970s as declining enrollments, the ravages of inflation, and less generous outside support brought the recession to higher education. Administrators began to embrace a variety of hard-nosed stratagems to deal with new financial realities. Some proclaimed a need for greater faculty productivity and accountability (a topic discussed during the salad days, *sotto voce*). Others experimented with hiring freezes on appointments. Still others imposed rigid tenure quotas. Finally, some administrators,

threatened with what they considered impending financial disaster, dismissed tenured members of the faculty and in a few cases abolished the tenure system altogether. Financial stringency here became the cloak for hasty, peremptory, often ill-considered administrative decisions—or, more precisely, administrative fiat. The classic example, of course, is the Bloomfield College case, when, with a bold stroke of the pen, tenured professors were fired and the tenure system abolished and replaced by a system of one-year terminal appointments—all in the name of financial exigency. The administrative decision was overturned by the court, which noted that the administration's "primary objective was the abolition of tenure at Bloomfield College, not the alleviation of financial stringency."

While it would be inaccurate to suggest that the administrative actions of Bloomfield College are in any way typical of colleges and universities, there is sufficient evidence of administrative excesses and abuse of administrative discretion to suggest that these may explain why faculty members in ever-increasing numbers are beginning to reject the managerial or corporate model of academic governance. Indeed, many have decided that full-fledged participation in the governance process must be achieved as a matter of statutory right rather than as a privilege accorded by administrations. These faculty have therefore turned to collective bargaining, and some have even embraced the most extreme, adversary type of such bargaining.

The American Federation of Teachers is the prototype of this extreme. In its view, "The American university has a peculiar structure. Engrafted on its educational element is the corporation. The Board of Directors is the Board of Trustees; the managers are the presidents and the host of deans. It is these groups that wield the power and authority and determine the destiny of a university. To be sure, they have woven a web of faculty senates and councils which simulate the original role of policy making that university faculties once had. The advisory nature of these bodies provides them with some active role in curriculum and student affairs, but virtually no part to play in securing the necessary finances to provide professional salaries, workload, and working conditions." Collective bargaining, says the AFT, is the only "proven process for giving employees—blue-collar, white-collar, and professional—a real voice in policy making"; for redressing the imbalance in bargaining power between faculty and administration; and for achieving "truly professional conditions." The AFT says that the great virtue of collective bargaining is that it matches power with power. It may function in an adversary setting where professors as employees engage their administrators as employers. But the end result is to remove the "cant and hypocrisy" of intramural faculty organizations and give faculty a real voice in democratic self-government.

The industrial union model undoubtedly provides some benefits to an organized professoriat. A collective bargaining contract affords better protection against arbitrary, capricious, or discriminatory administration than a policy statement adopted unilaterally by the administrative power structure. For example, policies on academic freedom unilaterally promulgated by administrative authority can be unilaterally withdrawn by the same authority—especially in periods of economic or political turmoil when such protection is needed most. However, collective bargaining may also result in visible,

short-run, and in some cases spectacular economic gains for the faculty. One dramatic example is the survey of Michigan some years ago showing, in a ranking according to salaries, that 7 of the top 10 institutions in the state were junior colleges, most of which operated under faculty union contracts.

Nevertheless, the industrial union model does not cope effectively with two major problems—even beyond the ivory tower. First, spectacular economic gains for the union members may be produced only at a high price in terms of total employment. A classic case in point is the United Mine Workers Union, which achieved substantial

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The modern American university, and particularly the large state-supported institution, is a formidable bureaucracy with all the advantages of organizational size—as well as the curse of bigness. In its pristine form, as B. Alden Thresher of MIT has noted, it is a pyramidal structure with sharply defined limits of authority and responsibility. Power flows from the top down. Information may flow from the bottom up, but seldom policy, initiative, or wisdom. The modern university was built on the conventional notion that students are there to learn, professors to teach, and administrators to govern. Let no one cross these jurisdictional lines.

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increases in wages and fringe benefits during the 1950s while its membership dwindled from more than 500,000 to roughly 140,000. John L. Lewis, when pressed by rank-and-file to fight for a $2 per hour wage increase at the UMW convention in 1948, had predicted this. "I can do it," he told his men, "but some of you won't be around to enjoy the newly acquired affluence." He understood, as militants sometimes do not, that the wage pie—at a point in time or in the short run—is fixed, and that higher wages can be had only at the cost of fewer workers. Professors might consider this when they boast of economic gains for established insiders without considering the price paid by potential newcomers who may find job opportunities curtailed as a result.

Second, the industrial union model may fail to secure for the employees meaningful power over the direction of the corporate enterprise. The United Automobile Workers Union, for example, has impressive clout at the bargaining table and can boast of great economic gains for its members, but certainly has not been able to influence the price at which General Motors sells its cars, the kinds of cars GM chooses to produce, or the location of GM factories. These managerial prerogatives are jealously reserved as the private domain of the corporation's directors and managers. Similarly, in academe, once the industrial union model is embraced, a dichotomy is immediately created between "employees" and "employers." Professors may then negotiate with the administration about salary

scales, workloads, and grievance procedures, but if the industrial union experience holds, they may forfeit their right to participate in determining the overall goals of the university, in setting its priorities, and in selecting its principal administrators. In short, the faculty union may have a powerful voice in how the salary portion of the budget shall be distributed, but it may force the faculty to forego whatever power it has (or could obtain) to influence the overall allocation of the university's resources. This is a loss of critical importance, a sacrifice of the most basic power that can be exercised in a university or any organization.

The shared authority model of university governance overcomes the inherent disadvantages of both the hierarchical and industrial union models. The shared authority model rejects the assumption, basic to the other two, that there is a sharp dichotomy between administration and faculty, as well as the notion, basic to the hierarchical model, that meaningful collegiality can be maintained where professors merely teach while administrators govern. The shared authority approach obviously turns away from the assumption that faculties can obtain their rights only by confronting power with power in an adversary framework. Instead, it is based on the proposition—ostensibly idealistic, but in fact pragmatic—that the central values of the university can be advanced only where there is a community of interest between administration and faculty; where power and responsibility are shared in an atmosphere of civility and cooperation, and where there is effective collaboration between equal partners in the decision-making process.

Maximum faculty participation in decision making, particularly in cases of financial exigency, should be standard practice. Such participation tends to assure that the educational implications of decisions will be fully explored and considered; that the best professional judgment will be used to determine which reductions are least likely to damage the long-run objectives of the university; that procedural and substantive due process for the individuals concerned will be respected; and that the bona fide nature of a financial crisis will be demonstrated before drastic action is taken.

It must be stated that shared authority means faculty must have an increased voice in the budgeting process and participate fully in the central allocation of the university's scarce resources, because this is the university's value system, the ordering of priorities, and the ultimate exercise of power. As the American Association of University Professors put it (in a statement jointly formulated with the American Council on Education and the Association of Governing Boards of Universities and Colleges), "The faculty should participate both in the preparation of the total institutional budget and (within the framework of the total budget) in decisions relevant to the further apportioning of its specific fiscal divisions (salaries, aca-

demic programs, tuition, physical plant and grounds, etc.).

The soundness of resulting decisions should be enhanced if an elected representative committee of the faculty participates in deciding on the overall allocation of institutional resources and the proportion to be devoted directly to the academic program. This committee should be given access to all information that it requires to perform its task effectively, and it should have the opportunity to confer periodically with representatives of the administration and governing board. Such an institution-level body, representative of the entire faculty, can play an important part in mediating the financial needs and the demands of different groups within the faculty and can be of significant assistance to the administration in resolving impasses which may arise when a large variety of demands are made on necessarily limited resources. Such a body will also be of critical importance in representing faculty interests and interpreting the needs of the faculty to the governing board and president.

Circumstances of financial exigency obviously pose special problems. As the AAUP statement observed, "At institutions experiencing major threats to their continued financial support, the faculty should be informed as early and specifically as possible of significant impending financial difficulties. The faculty—with substantial representation from its nontenured as well as its tenured members, since it is the former who are likely to bear the brunt of any reduction—should participate at the department, college or professional school, and institutionwide levels in key decisions as to the future of the institution and of specific academic programs within the institution. The faculty, employing accepted standards of due process, should assume primary responsibility for determining the status of individual faculty members. The faculty should play a fundamental role in any decision that would change the basic character and purposes of the institution, including transformation of the institution, affiliation of part of the existing operation with another institution, or merger, with the resulting abandonment or curtailment of duplicate programs."

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If the principle of shared authority becomes the central operating principle of governance, both the administration and the faculty stand to benefit. The administration, by informing the faculty through a full disclosure of relevant facts and involving the faculty in the difficult choices that must be made, exercises leadership through persuasion rather than command, and gains faculty support for decisions that might otherwise be unpopular or unpalatable. In effect, the faculty is co-opted into supporting decisions its own representatives have helped make. Similarly, professors with access to information customarily denied them and an opportunity to affect major decisions with their unique perspectives, insights, and

values, are placed in the fortunate position of having to support and live with not decisions made by others and passed down from above but decisions the faculty themselves have helped make as partners within a democratic power structure.

Seen from these perspectives, the current debate over collective bargaining in higher education loses much of its relevance. Collective bargaining becomes a means to an end rather than an end in itself. In some institutions where the hierarchical model is still in full force, collective bargaining may be the best technique for establishing shared authority. In institutions at the most advanced stage of administrative evolution, collective bargaining may be wholly superfluous. In any case, where collective bargaining becomes part of the governance process, it is crucial that it be the right kind of bargaining, based on the shared authority principle rather than the adversary, industrial-union model.

With collective bargaining in some institutions, without collective bargaining in others, the principle of shared authority offers the best hope for civilized governance in American higher education. It is based on the fundamental academic values of collegiality and community of interest between administration and faculty, as well as on the precept of democratic participation in decision making.

8

For Further Reading

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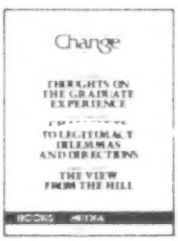

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